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ANNUAL

MEDICAL AND HEALTH REPORT

FOR THE YEAR

1939.

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1941.

LEGISLATIVE COUNCIL,

FIJI.

COUNCIL PAPER, No. 1. F.A. 48/4/19 pt. 3.

Medical Department

(Annual Report for 1939.)

The Acting Director of Medical Services to The Hon. the Colonial Secretary.

Sir, Suva, 14th November, 1940.

I have the honour to submit, for the information of His Excellency the Governor, and for transmission to the Right Honourable the Secretary of State, the Medical Report on the Health and Sanitary conditions prevailing in the Colony of Fiji for the year 1939, together with the returns appended thereto.

I have, &c.,

D. C. M. Macpherson,
Acting Director of Medical Services.

I.—ADMINISTRATION.

In addition to the statement showing the total revenue and expenditure of the Medical Department, this and subsequent annual reports will contain as close an approximation as possible to the financial situation within each of the main subdivisions of administration, hospitals and dispensaries, and public health. Medical educational services are still unavoidably included in the subdivision of hospitals and dispensaries.

2. The total revenue of the Medical Department for 1939 was £13,480. The total expenditure on all medical services, excluding capital expenditure, was £100,686 representing 9·2 per cent. of the Colony's total expenditure of £1,095,927, the nett cost per head of population being 8s. 1⅛d. The apportionment of revenue and expenditure to the three main subdivisions of the medical services of the Colony was as follows:—

(i) Administration.—The nett expenditure under this heading amounted to £2,347 and was made up of the salaries of the Director of Medical Services and the headquarters office staff. The appointment of Assistant Director of Medical Services remained unfilled throughout the year.

(ii) Hospitals and Dispensaries.—Revenue, which amounted to £13,480, includes hospital fees and other contributions from various sources which are detailed in Appendix C. Expenditure, which amounted to £71,533, includes the salaries of two Medical Officers posted at the Colonial War Memorial Hospital, and one moiety of the salaries of officials whose duties are partly curative and partly preventive, namely all Medical Officers posted in country districts, all Native Medical Practitioners, and the Nursing Superintendent whose responsibilities extend to both hospital and public health nursing. It also includes the Government Pharmacy and all other costs connected with the maintenance of hospitals, including the Mental and Leper Hospitals.

(iii) Public Health.—Revenue amounted to £1,027. Expenditure, which amounted to £26,806, included the full salaries of the Medical Officer of Health, Pathologist and laboratory staff, sanitary staff, infant welfare staff, and one moiety each of the salaries of all Native Medical Practitioners, Government Medical Officers posted in country districts and of the Nursing Superintendent. The expenditure on all public health services represents a proportion of 2·5 per cent. of the Colony's total expenditure.

B.—LEGISLATION AFFECTING PUBLIC HEALTH AND MEDICAL SERVICES ENACTED DURING THE YEAR.

Ordinances—

No. 1 of 1939—Pure Food Amendment Ordinance.
No. 11 of 1939—Quarantine Amendment Ordinance.
No. 14 of 1939—Public Health Amendment Ordinance.

Regulations—

Regulations made under the Pure Food Ordinance No. 7 of 1925.
Quarantine Aerial Navigation Regulations.

II.—PUBLIC HEALTH.

A.—ADMINISTRATION.

3. The curative and public health services are jointly controlled by the Director of Medical Services. He is *ex officio* Chairman of the Central Board of Health which advises Government on all health matters, and holds executive powers in areas where there are no Local Authorities. The Local Authorities, now under the chairmanship of the District Commissioners with the Medical Officers as *ex officio* members, are responsible for the administration of public health in the areas assigned to them, and have power to make their own by-laws. The Public Health Ordinance is not applicable to the communally living Fijian, whose public health is administered under a special chapter in the code of Native Regulations. The Fijian health services are co-ordinated with the others through the Government Medical Officers, who are the responsible health officials in both cases. There is one full-time Medical Officer of Health, and notwithstanding the fact that his authority is limited to the port, town and environs of Suva, a special importance attaches to his office as a centre for the co-ordination of the public health work of the Colony as a whole. A Medical Officer with special public health training, and having his headquarters in Nadroga, has been appointed to perform the duties of Medical Officer of that district conjointly with those of Medical Officer of Health of the Northern Electoral Division. Within this public health area there are several growing townships, proclaimed or unproclaimed, as well as the largest industrial undertakings in the Colony. This particular combination of curative with preventive duties is rendered possible by local circumstances, and is a necessary step in the expansion of the public health service. The Government Medical Officers in country districts are all *ex officio* Medical Officers of Health. The sanitary staff consists of a Chief Sanitary Inspector and three other qualified sanitary inspectors, four sanitary overseers and thirteen sanitary assistants. In order to lend encouragement to the local communities to compete for the sanitary posts, there is now under consideration a proposal to seek the assistance of the Royal Sanitary Institute in the matter of arranging for holding local examinations to qualify for posts in the two upper grades.

4. In January, 1939, the Department suffered the loss by death of Ratu Sowani Puamau, M.B.E., one of the most senior and respected Native Medical Practitioners who have entered the Fiji Medical Service since the inauguration of medical training for natives. Thirty years of his long service were spent in the Gilbert and Ellice Islands Colony, where on more than one occasion he acted as Officer in Charge of the Medical Department. A born leader of men with a high sense of duty he was, moreover, a most competent surgeon, a tireless worker and set a magnificent example for other Native Medical Practitioners to emulate.

B.—INFANT WELFARE.

5. The Fijian Infant Welfare campaign was inaugurated by Government on a Colony wide basis on the 1st January, 1927, on account of the relatively high infant mortality rate as compared with the non-Fijian. In order that it might gain the confidence and support of the Fijians the organization was conducted as a branch of the Native Administration from its inception until the 1st January, 1938, when it was considered that the conditions were fulfilled for its transference to the Medical Department. Close co-operation with the Native Administration continues to be maintained in the essential interests of the work. It has already accomplished an immense amount of valuable work chiefly on the educative side, and evident in the great improvement that has taken place in the standard of environmental hygiene. Valuable as this improvement in hygienic standards undoubtedly is, it has yet to be admitted that the principal reason for the lagging behind of the Fijians, as compared with the other races resident in the Colony, is to be found in the indifferent motherhood and racial apathy, causes which are largely psychological in their nature and call for special treatment which, unfortunately, is very difficult of application. It is for this reason that the Christian Missions have recently been invited to bring the Fijians to a realisation of their responsibilities in regard to the future of their race, and every official engaged in Infant Welfare duties is instructed to pay particular attention to this aspect of the question. Future prospects are, however, by no means entirely dark, and evidence of an increasing appreciation of the value to them of public health is manifested in the constant requests made for additional Native Medical Practitioners and Native Obstetric Nurses, officials for whom the present demand far exceeds the supply. Again it is often argued that the communal mode of living is likely to deter the Fijians from keeping pace with the individual peoples with whom they are now in constant contact, but striking examples of the ability of the Fijians successfully to compete in the economic field are to be found in the mining industry where the vast majority of labourers, both skilled and unskilled, are Fijians, and in the sugar industry where they are learning to be successful cane farmers.

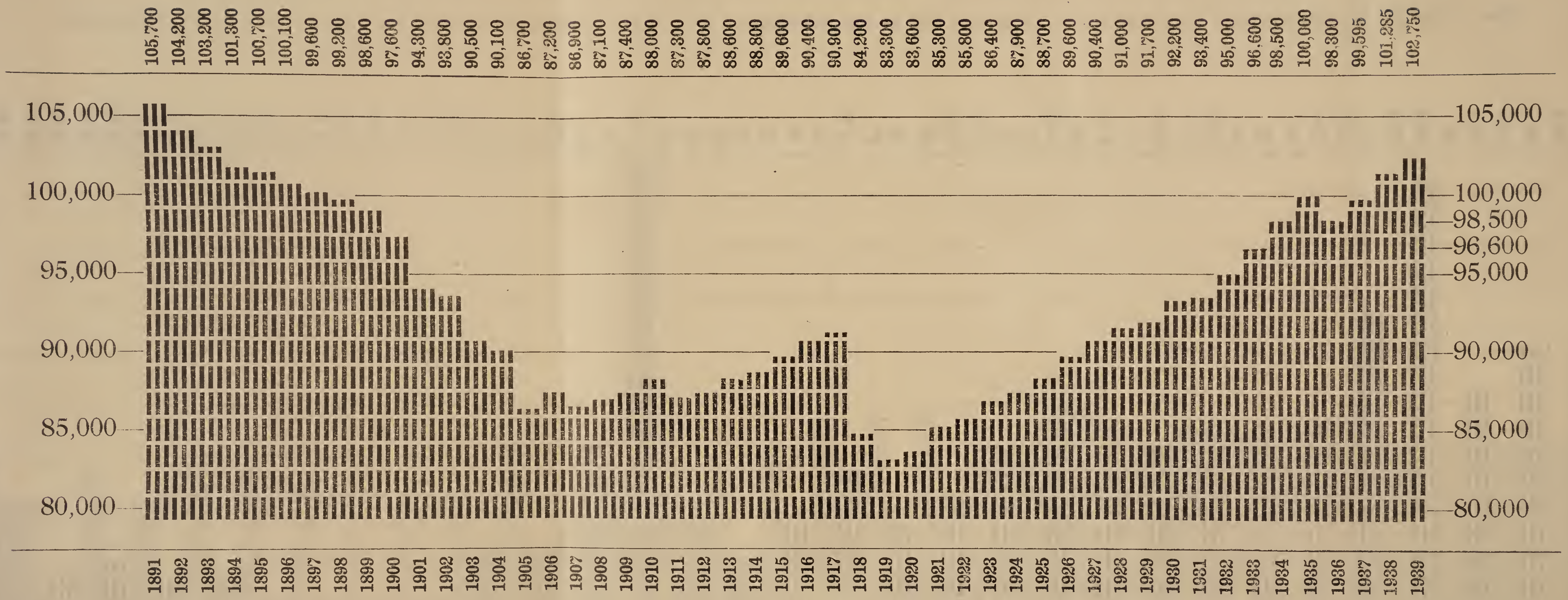
6. While the infantile mortality rate among the Fijians is undoubtedly high, it compares more than favourably with the rates of other tropical countries. In the following table the figures of the Fijians are shown in relationship to the figures of those of other Colonies:—

INFANTILE MORTALITY RATE PER THOUSAND FOR YEAR 1938.

Fiji (Fijians only)		107·06	
Fiji (average for whole population)		92·12	
British Guiana		166·	
Jamaica		129·	
Uganda		147·18	
Mauritius		162·5	
Straits Settlement and Federated Malay States	from	111·	in Kelantan
	to	233·	in Singapore.

GRAPH A.

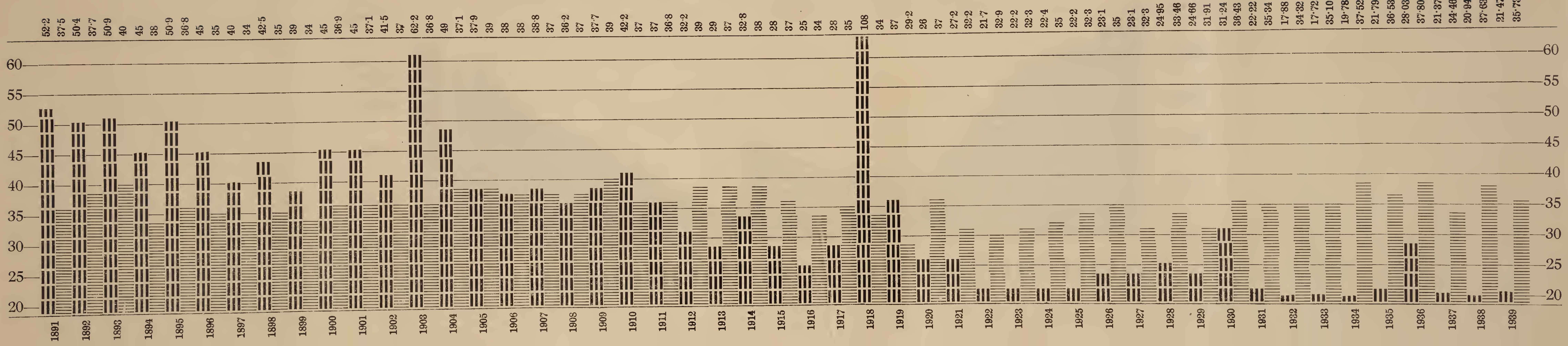
SHOWING THE DECREASE AND INCREASE IN THE FIJIAN RACE FOR THE LAST 49 YEARS.



GRAPH B.

SHOWING THE DEATH AND BIRTH RATE IN THE FIJIAN RACE FOR THE LAST 49 YEARS.

Note.—The thick perpendicular lines indicate the rise and fall in the death-rate; the thin horizontal lines show the rise and fall in the birth-rate



In the 1938 Annual Report it was suggested and, I believe, rightly so, that the unfavourable view taken with regard to the infantile mortality figures of the Fijians has been the result of using for the purposes of comparison the figures only of the other two principal races in the Colony, namely, East Indians and persons of mixed descent. The disparity in this respect is as evident in the figures for 1939 as in other years.

INFANTILE MORTALITY RATE UNDER ONE YEAR FOR THE PAST FIVE YEARS.

	1935 Rate per thousand births.	1936 Rate per thousand births.	1937 Rate per thousand births.	1938 Rate per thousand births.	1939 Rate per thousand births.
Fijians	126·51	140·51	96·44	107·06	106·75
East Indians	63·24	81·23	55·70	76·75	69·87
People of mixed European and Fijian Descent	49·38	62·5	53·33	56·96	35·97

Finally any survey must still be incomplete without the comparative information regarding the death rates of all children under five years old, which is contained in the following table:—

CHILD MORTALITY RATE UNDER FIVE YEARS FOR THE PAST FIVE YEARS.

	1935 Rate per thousand births.	1936 Rate per thousand births.	1937 Rate per thousand births.	1938 Rate per thousand births.	1939 Rate per thousand births.
Fijians	224·53	278·87	204·54	210·7	196·62
East Indians	81·31	118·54	86·98	103·89	90·54
People of mixed European and Fijian Descent	74·07	150·00	80·00	88·6	71·94

C.—COMMUNICABLE DISEASES.

7. There were 130 cases of typhoid fever with 15 deaths. Nowadays the outbreaks of this disease are mainly confined to low-lying agricultural areas having no reticulated water supply. Control is effected chiefly by the isolation of cases and the inoculation of all contacts. Dysentery, of which 1,190 cases, with 50 deaths, were notified, did not occur, however, in epidemic form. The cases were fortunately of the mild type, mainly of the flexner variety. Centres of Indian population continued to show the heaviest infection, particularly those living in areas subject to floods whose drinking water is obtained from shallow subsoil wells which become polluted with surface washings during the rainy season. Amœbic dysentery is comparatively rare in comparison with the bacillary type, but nevertheless its incidence among Europeans is higher than was at one time believed. Special investigations, including the actual culture of *E. histolytica* are being conducted in the Pathological Laboratory with a view to obtaining more accurate information as to the extent of its distribution. Ankylostomiasis is constantly present along the river valleys and in the wet regions, but the infestation rate is not a heavy one. During the year a health survey of workers employed at the Vatukoula gold mining field revealed an infestation of 70 per cent. positive. Steps will be taken immediately to deal with this. Microscopic surveys and treatment where necessary continued to be carried out in conjunction with soil sanitation, particularly in the Savu Savu and Taveuni districts. Yaws, once so prevalent, appears to be a rapidly vanishing disease, only 966 cases being notified during the year. On the other hand, during a special survey made of the Dependency of Rotuma yaws and other skin conditions were found to be exceedingly prevalent, and apparently somewhat resistant to the usual arsenical treatment. Three hundred and fifty-three cases of tuberculosis were notified during the year with 83 deaths. It was hoped that more intensive surveys for the purpose of ascertaining the incidence of tuberculosis in the native population might be commenced during 1940, but the outbreak of war it is feared will necessarily delay this important public health advance.

8. The increase in industrial development that has taken place in recent years has added greatly to the opportunities for infecting the Fijians with gonorrhœa, and while there is still no evidence of a serious increase in the incidence of that disease, the necessity for constant vigilance by the medical and public health staffs is realised. It has been observed that gonorrhœa, when it occurs in the Fijians, runs an unusually mild course and is rarely attended by sequelæ such as stricture. It seems possible that there may be some connection between this fact and the habit common to all South Sea Islanders of drinking kava, a beverage which possesses both diuretic and astringent properties. Syphilis is now a relatively uncommon disease of which no case appears to have been reported in a native Fijian. There are treatment centres for venereal diseases at the office of the Medical Officer of Health in Suva, as well as the medical headquarters of all country districts.

9. The special medical survey of mine employees in the gold mining area referred to in the 1938 Annual Report was undertaken in the latter part of the present year, and a summary of the results obtained appears on page 43 of this report.

III.—HYGIENE AND SANITATION.

10. The sanitation of the port, town and environs of Suva has been discussed very fully by the Medical Officer of Health on page 11. There is much need for a complete survey of the drainage needs of Suva and the various townships proclaimed as such under the Townships Ordinance 1928. The increasing need for dealing with this problem has been kept constantly before Government, and has been the subject of many discussions by the Central Board of Health. Much remains to be done still in the more closely settled areas with regard to the conservation and purification, where necessary, of water supplies, and the need for the inauguration of a permanent water conservancy board is yearly becoming more apparent.

IV.—HOSPITALS AND DISPENSARIES.

11. The Colonial War Memorial Hospital, situated within the boundaries of Suva less than a mile from the General Post Office, is progessively attaining to higher standards in all its activities, which include the teaching of medical and nursing students. The scheme of improvements to this hospital which was accepted by Government in 1937 envisaged a combined new hostel and Central Medical School, a new hospital out-patient's department combined with the Health Centre, a modern building to house the greatly enlarged school for non-European nurses, and isolation, obstetric and mental observation blocks. The new laundry and steam sterilisation plant was put into commission during the year and has functioned successfully. Various minor improvements were carried out to the X-ray section. The hospital, of which the activities for the year are described on page 21, now contains 206 beds and cots. Its medical staff consists of two full-time officers of whom the senior is, since the reorganisation of the Public Service, styled Medical Officer in Charge. Neither post is intended to be permanent, and neither now carries any emoluments or allowances additional to the salary of a Government Medical Officer. The nursing staff consists of a Matron and Nursing Superintendent, Assistant Matron, 14 trained nurses, 13 probationer nurses, 2 qualified native obstetric nurses and 23 native pupil nurses. The admissions for the year numbered 2,912 and the attendances at the out-patient department 32,434. Closely associated with the hospital are the Pathological Laboratory and the Central Medical School.

12. Although the Colonial War Memorial Hospital was built as recently as 1923, its site, extending to 11½ acres, from the viewpoint of expansion, has proved a most unfortunate choice for it is traversed over most of its extent by a deep and winding ravine with sides too steep to build on without the most costly excavation. There is, therefore, but little order in the setting out of the component parts of the hospital, nor can there be orderly planning for its future expansion. Nevertheless the hospital, medical school and laboratory are institutions which bring credit to the Colony. In order to make the hospital as self-reliant as possible in regard to the supply of native vegetables, the ravine referred to has been planted with a variety of the more prolific staple crops

13. There has been no change in the structure or form of administration of the Lautoka Hospital, and its expansion is likely to be curtailed should the proposal now under consideration by Government to build a hospital in Ba, some 24 miles distant from Lautoka, materialise in the near future. This hospital contains 72 beds, and is staffed by one Medical Officer, four trained nurses, seven qualified native nurses and twelve native pupil nurses. Admissions for the year numbered 1,491 and attendance at the out-patient department 8,255.

14. The Labasa Hospital has 40 beds and is under the charge of the Medical Officer of the Macuata District. Its nursing staff consists of two trained nurses and three native nurses. A new block containing quarters for the Sister in Charge and accommodation for private patients was under construction at the end of the year, but had not been occupied. A portable X-ray plant has now been installed at this hospital.

15. Of the remaining hospitals, two in Ba and one each at Levuka and Taveuni have trained nurses attached to them, while the remaining 16 are maintained and staffed as auxiliary hospitals only, serving their most useful purpose in times of epidemics.

16. There is an effective chain of dispensaries of which the units are based on the hospitals. Most of them are staffed by Native Medical Practitioners, a few only by Indian Medical Practitioners, and with a few exceptions they are supervised by Government Medical Officers. There are out-patient branches connected with all the hospitals, and excluding these there were 31 dispensaries scattered throughout the whole Colony at the end of the year. It is difficult to see how a better organisation could be devised to meet the needs of a population inhabiting 80 separate islands.

V.—NURSING SERVICES.

17. Experience during the year under review provided still further evidence of the advantage which accrues to this Colony from the association of its nursing services with those of the Dominion of New Zealand. The classification of all nurses employed in the Government Service during 1939 was as follows:—

Matron and Nursing Superintendent	1
Matron (Lautoka Hospital)	1
Assistant Matron	1
Sisters in Charge	2
Staff Sisters	2
X-Ray Nurse	1
Nurse Housekeeper	1
Sisters	13
Staff Nurses	3
Probationer Nurses	13

Senior Native Nurse	1
Native Obstetric Nurses	75
Fijian Infant Welfare Scheme—	
European Nurses	5
Native Nurses	15
Central Leper Hospital, Makogai—	
European Nursing Sisters	15
Native Nursing Sisters	10
Mental Hospital—	
European Female Attendant	1
Native Female Attendants	6

While it is inseparable from the conditions now appertaining in this Colony not to combine in some measure curative and preventive duties in all classes of nurses, the following may be accepted as a reasonable statement of the distribution of personnel as between the hospital and public health branches:—

A.—HOSPITAL SERVICES.

(i)	Trained Nurses (including the Nursing Superintendent)	41
(ii)	Probationer Nurses	13
(iii)	Trained Native Nurses	40
(iv)	Pupil Native Nurses	35

B.—PUBLIC HEALTH SERVICES.

(i)	Trained Nurses	5
(ii)	Trained Native Nurses	67

18. The Matron of the Colonial War Memorial Hospital, in her capacity of Nursing Superintendent, is now responsible for the supervision of all Government nursing services, the infant welfare staff having been handed over to her charge on the 1st January, 1938.

VI.—MEDICAL EDUCATION.

19. The Central Medical School report for the year 1939 is published on page 27. The school completed the eleventh year of its co-operative existence on the 31st December with results, I believe, that justify the hopes of those who regarded it as the solution of the health problems of the scattered Pacific Islands and their respective and relatively impecunious administrations. The Principal is a medically qualified official whose full time is devoted to administrative and teaching duties at the school, where there are also twelve honorary lecturers. Government has already approved of the replacement of the existing Students' Hostel with a combined school and hostel, and as the site of the present hostel is required for a Health Centre, it is hoped to commence the new building in 1940. The establishment of a new Health Centre will follow as soon as possible the completion of the new Students' Hostel and will provide, among other things, the extended and improved facilities, including a teaching museum, which are urgently needed to supplement the laboratory and other services in the teaching of public health.

20. *Nurses' Training Schools.*—There is local provision for training two grades of nurses. The higher is for the certificate of general nursing of the New Zealand State Board, which is recognised in other countries. The other is for the diploma of Native Obstetric Nurse, which is of local application only. The extension and improvement of the facilities for training non-European nurses to which reference has been made in previous annual reports, has been brought a step nearer to its accomplishment by the decision of Government to accept an offer of the Rockefeller Foundation to provide for a chosen member of the Fiji Nursing Service a studentship in tutorial nursing and allied subjects. The Nurses' training schools, like the Central Medical School, will become very closely associated with the Health Centre.

21. Public Health Education of the general community includes all school children, and is undertaken as part of the duties of all public health and school officials, supported in most cases by Government administrative officers. Experience is showing that if the health education of young children of the peasant classes is to be effective, it must be reduced to the simplest and most practical forms.

VII.—LABORATORY DIVISION.

22. A survey of the work done in the laboratory during the year is contained on page 26. While the presence of a laboratory has conferred great benefits on the local communities, the progressive increase in its routine duties, which is inevitable once a service of this kind becomes established, makes it impossible for its normal staff to engage itself to any appreciable extent in research. It seems to be inseparable, too, from the conditions appertaining in a small service, that an officer holding the post of Government Pathologist should be used as a spare part for other branches even though this be done at the expense of the work of his substantive post. It is, indeed, realised that the individual Medical Officers of all grades in the Service are too fully occupied with their normal duties to undertake any serious research work, and so Government has made it known that the admirable facilities of its laboratory, as well as the potentially fruitful field which these islands provide for medical research, are at the disposal of any duly authorised workers whose emoluments will not be a charge against this Colony.

23. Foremost among the problems that await investigation is nutrition, for it is becoming clear that without special temporary arrangements as to staff, only the fringe of this subject can be touched by the existing establishment. The activities of the Nutrition Committee, which was appointed in 1936, have necessarily been confined to the gleaning of preliminary information from schools and other sources, and to ascertaining the deficiencies, if any, in dietary scales now approved for issue in Government institutions, to Government employees and labourers.

VIII.—PRISONS AND MENTAL HOSPITAL.

24. In addition to the central gaol at Suva there are prisons attached to the headquarters of all country stations which are used chiefly for short term prisoners. These country prisons have, as far as possible, been subjected to regular inspections by Medical Officers, and have been maintained in a satisfactory condition. It is generally observed that in spite of discipline and hard work the physical and mental condition of prisoners undergoes a rapid improvement as a result of a wholesome diet and regular hours, and that this improvement is maintained throughout the period of their detention.

25. The central gaol in Suva is well constructed as regards all its departments and is maintained in a cleanly condition which is a credit to the responsible officials and an asset in the preservation of the health of the inmates. During the year under review there were 115 admissions to the gaol infirmary while 176 prisoners were treated as out-patients for minor ailments. The only infectious diseases were 50 cases of influenza and thirteen of dysentery, and there were no cases of diseases due to food deficiency. The diet of the prisoners was amended in the following respects—the addition of green vegetables to the diet of all prisoners on admission instead of, as formerly, after the elapse of six months, and also the provision of cheese and butter fat. There is an Indian Medical Practitioner in permanent residence at the gaol, which is also visited three times weekly by a visiting medical officer.

26. There is only one Mental Hospital in the Colony. It is situated in Suva and occupies one of the finest sites in the neighbourhood of the town, and provides accommodation for its inmates in buildings which conform on the whole with modern standards. The Mental Hospital grounds which are protected by high fences are spacious enough to provide ample room for exercise and recreation for the patients. The institution is under the immediate charge of a head attendant and his assistant, both Europeans, and under them there is a staff of warders and wardresses, all natives of Samoa, selected on account of the special aptitude of the people of those islands for the duties of attending on persons of unsound mind. The buildings and their surroundings were well maintained throughout the year in their usual sanitary condition and considering the characteristics of the inmates it is largely to the credit of those responsible for their welfare that they remained remarkably free from sickness and epidemic disease during the year. The Mental Hospital is regularly visited by the visiting medical officer and periodically inspected by a Board of Visitors. The total number of patients treated during the year was 112, of whom 83 had remained over from 1938 and 29 were new admissions. Thirteen patients were discharged unconditionally, and one was discharged on trial. There were 16 deaths and 82 patients remained at the end of the year.

IX.—METEOROLOGICAL.

27. The total rainfall at Suva for 1939 was 147·15 inches compared with the average of 120·68 over a period of 55 years. The wettest month was March, when 23·06 inches fell and the driest month was June, when 2·07 inches were recorded. There were 249 wet days, the wettest being January 19th, when 5·78 inches fell.

X.—GENERAL.

28. The outbreak of war in Europe in September led to the necessity for examining a considerable number of recruits and the preparation of a scheme of medical emergency work. Considerable additional burdens were thrown on to the staff of the Department as a result. In September the Director of Medical Services and the Government Pathologist made a medical survey of the Gilbert and Ellice Islands Colony at the request of His Excellency the High Commissioner for the Western Pacific.

29. Owing to war conditions the usual photographs illustrating the work of the Department have been omitted.

30. Permits to withdraw from the Dangerous Drugs Store were granted for the following in 1939:—Liquor Opii Conc 1-7, 80 oz.; Liquor Opii Conc 1-9, 100 oz.; Liquor Opii Conc 1-15, 120 oz.; Codeine Phosphate 17 oz.; Chlorodyne 54 oz.; Heroin Hydrochloride (Hypodermic Tablets) 1 grain; Morphine Sulphate (Hypodermic Tablets) 15 grains.

D. C. M. MACPHERSON,
Acting Director of Medical Services.

APPENDIX A.

VITAL STATISTICS.

The graphs A and B, introduced in the Annual Report, 1931, have been extended for 1939.

The estimated population at the end of 1938 and 1939 was:—

Race.	Males, 1939.	Females, 1939.	Total, 1939.	Total, 1938.	Increase.	Increase per cent.	Decrease.	Decrease per cent.
Europeans	2,261	1,998	4,259	4,188	71	1·69	....	....
P.M.E.N.D.*	2,526	2,442	4,968	4,879	89	1·82	....	....
Fijians..	52 234	50,516	102,750	101,285	1,465	1·44	....	....
Rotumans (all races)	1,514	1,477	2,991	2,967	24	·8	....	....
East Indians	53,136	41,830	94,966	92,309	2,657	2·87	....	....
Polynesians	1,110	590	1,700	1,637	63	3·84	....	....
Chinese	1,699	355	2,054	1,979	75	3·78	....	....
Others	693	649	1,342	1,274	68	5·33	....	....
Total ..	115,173	99,857	215,030	210,518	4,512	2·14	....	....

The number of births recorded during the last four years was:—

Race.	1936.	1937.	1938.	1939.	Crude birth-rate per 1,000, 1939.
Europeans	64	71	56	83	19·48
P.M.E.N.D.*	160	150	158	139	27·97
Fijians	3,715	3,432	3,811	3,672	35·73
Rotumans	109	129	129	98	32·76
East Indians	3,484	3,357	3,648	3,678	38·72
Polynesians	26	74	21	54	31·76
Chinese	20	18	34	34	16·55
Others	56	53	122	84	62·59
Total ..	7,634	7,284	7,979	7,842	36·46

The general birth-rate in 1938 was 37.90.

The number of deaths recorded during the past four years was:—

Race.	1936.	1937.	1938.	1939.	Crude death-rate per 1,000, 1939.
Europeans	33	36	38	31	7·27
P.M.E.N.D.*	52	40	35	50	10·06
Fijians	2,755	2,128	2,121	2,207	21·47
Rotumans	67	58	77	74	24·74
East Indians	1,069	901	1,034	1,192	12·44
Polynesians	45	42	49	62	36·47
Chinese	15	6	17	10	4·86
Others	20	14	17	7	5·21
Total ..	4,056	3,225	3,388	3,633	16·89

The general death-rate for 1938 was 16·09.

The marriages, births, deaths and natural increase for 1939 were:—

Race.	Marriages.	Births.	Deaths.	Increase.	Decrease.
Europeans	49	83	31	52	..
P.M.E.N.D.*	35	139	50	89	..
Fijians..	775	3,672	2,207	1,465	..
Rotumans	35	98	74	24	..
East Indians	873	3,678	1,192	2,486	..
Polynesians	18	54	62	..	8
Chinese	2	34	10	24	..
Others	24	84	7	77	..
Total ..	1,811	7,842	3,633	4,217	8

The rates of natural increases were:—Europeans, 16·95 per thousand; P.M.E.N.D.*, 18·24; Fijians, 14·46; Indians, 28·78; Chinese, 37·89. The natural increase of all races was 21·43 per thousand.

* Persons of Mixed European and Native Descent.

INFANTILE MORTALITY, 1939.

Race.	No. of deaths under 1 year.	Rate per 1,000 births.
Europeans	1	12·05
P.M.E.N.D.*	5	35·97
Fijians	392	106·75
East Indians	257	69·87
Polynesians	8	148·14
Others	10	84·74
Rotumans	12	122·45
Total ..	685	87·35

* Persons of Mixed European and Native descent.

HEALTH STATISTICS OF EUROPEAN AND NON-EUROPEAN OFFICIALS 1939.

	Europeans.	*Non-Europeans.*
Total number of officials resident	475	
Average number resident	387	
Total number on sick list	220	
Total number of days on sick list	2,063	
Average daily number on sick list	5·652	
Percentage of average daily number of sick to average number resident	1.460	
Average number of days on sick list for each patient ..	9·377	
Average sick time for each resident	4.343	
Total number invalided out of the Colony	2	
Percentage of invalidings to total residents	·421	
Total deaths	2	
Percentage of deaths to total residents	·421	
Percentage of deaths to total average number of residents ..	·517	

APPENDIX B.

COLONIAL WAR MEMORIAL HOSPITAL.

RETURN SHOWING THE EXPENDITURE AND REVENUE IN EACH OF THE LAST TEN YEARS AND THE COST PER BED OCCUPIED

Year.	In-patients.	Daily average in hospital.	Expenditure	Cost per head per day. Personal Emoluments	Cost per head per day. Other Charges.	Cost per head per day. Total.	Patients fees received.	Fees, if paid, of patients treated gratuitously
			£ s. d.	d.	d.	d.	£ s. d.	£ s. d
1930	2,805	87·51	10,976 18 2	39·2	43·4	82·6	1,377 0 9	4,551 4 0
1931	2,303	87·04	10,690 19 1	43·8	36·9	80·5	1,628 6 5	3,278 0 0
1932	2,345	95·2	11,085 5 5	40·5	35·2	75·7	2,098 3 7	6,662 5 0
1933	2,509	104·83	11,382 19 6	38·4	33·1	71·5	2,067 5 3	5,497 18 10
1934	2.398	106·45	11,762 7 0	37·7	34·9	72·6	1,999 17 7	5,428 18 2
1935	2.713	118·07	12,237 16 10	31·92	36·22	68·14	2,245 4 4	5,421 1 0
1936	3,074	124·83	12,970 8 8	30.76	37·66	68·42	2,038 8 8	6,109 11 0
1937	2,679	106·71	11,513 10 10	28·25	42·70	70 95	2,143 3 9	6,025 9 0
1938	2,573	105·18	13,060 15 2	38·78	42·87	81·65	1,795 7 1	5,600 4 0
1939	2,912	141·8	15,584 2 0	32·79	39·47	72·26	1,999 12 11	6,144 10 6

Remarks.—Salaries of the Medical Officers are included. The expenditure on the Central Medical School is not included. The cost of drugs used for out-patients is included. The expenditure under Works Department votes is not included.

LAUTOKA HOSPITAL.

RETURN OF EXPENDITURE FOR EACH OF THE PAST FIVE YEARS AND THE COST PER BED OCCUPIED.

Year.	Average daily number in hospital.	Expenditure.	Cost per head per day.		Total.
			Personal Emoluments	Other Charges.	
		£ s. d.	d.	d.	d.
1935	49·83	3,419 17 0	15·95	29·18	45·13
1936	50·0	3,557 18 0	14·74	29·92	44·66
1937	60·4	4,036 15 4	14·55	29·39	43·94
1938	64·8	3,974 7 7	14·37	25·97	40·34
1939	54·8	3,849 5 5	15·37	30·8	46·17

Remarks.—Does not include salaries of Medical Officers or of expenditure under Public Works Department. Cost of all drugs used is included.

LEVUKA HOSPITAL.

Return of Expenditure for each of the past five years and the cost per bed occupied

Year.	Average daily number in hospital.	Expenditure.			Cost per head per day.		Total
					Personal Emoluments	Other Charges.	
		£	s.	d.	d.	d.	d.
1935	11·11	982	2	6	19·62	38·61	58·23
1936	11·02	1,014	5	8	18·42	41·92	60·34
1937	9 9	1,102	14	9	22·2	51·0	73·2
1938	12·9	1,186	5	5	21·55	38·91	60·46
1939	13·8	1,244	5	4	18·41	40·89	59·3

Remarks.—Does not include salaries of Medical Officers or expenditure under Public Works Department. Cost of all drugs used is included.

LABASA HOSPITAL.

Return of Expenditure for each of the past five years and cost per bed occupied.

Year.	Average daily number in hospital.	Expenditure.			Cost per head per day.		Total.
					Personal Emoluments.	Other Charges.	
		£	s.	d.	d.	d.	d.
1935	20·05	1,485	8	7	13·91	34·81	48·72
1936	34·22	1,591	8	0	7·88	22·59	30·47
1937	29·6	1,576	10	10	9·1	25·9	35·0
1938	35·99	1,706	0	2	9.08	22·26	31·34
1939	35·88	1,500	8	10	10·45	27.48	37·93

Remarks.—Does not include salaries of Medical Officers or expenditure under Public Works Department. Cost of all drugs used is included.

MENTAL HOSPITAL.

Return of Expenditure for each of the past five years and cost per bed occupied.

Year.	Average daily number in asylum.	Expenditure.			Cost per head per day.		Total
					Personal Emoluments	Other Charges.	
		£	s.	d.	d.	d.	d.
1935	77·0	3,462	1	6	14·87	14·7	29·57
1936	83·7	3,628	9	0	13·78	14·65	28·43
1937	86 6	3,607	8	0	13·1	14·3	27·4
1938	85·8	3,713	16	11	13·65	14·81	28·46
1939	84.0	3,602	5	7	13.32	14·86	28·18

Remarks.—Expenditure under Public Works Department votes and Medical Officers salaries not included.

MAKOGAI CENTRAL LEPER HOSPITAL.

Return of Expenditure for each of the past five years and the cost per patient per diem.

Year.	Average daily number in Hospital.	Expenditure.			Cost per head per day.		Total
					Personal Emoluments	Other Charges.	
		£	s.	d.	d.	d.	d.
1935	510·29	13,359	13	10	5·89	11·32	17·21
1936	571·35	14,072	11	8	5·45	10·67	16·12
1937	572 98	14,290	15	5	5·23	11·17	16·4
1938	565·35	14,862	10	1	5·11	12·7	17·28
1939	632·78	15,166	6	8	4·92	10·8	15·72

Remarks.—Does not include expenditure under Public Works Department votes which was in 1938, £1,941 4s. 4d., on maintenance and £2,598 17s. 9d. on permanent improvements, and in 1939, £1,949 12s. 2d., on maintenance and £1,609 19s. 9d. on permanent improvements.

RETURN SHOWING DAILY COST PER BED OCCUPIED DURING 1938 AND 1939 OF THE HOSPITALS OF THE COLONY.

Hospital.	1938.			1939.		
	Aver. daily No. in Hosp.	Cost per head per day.		Aver. daily No. in Hosp.	Cost per head per day.	
		s.	d.		s.	d.
Colonial War Mem. Hospital	105·18	6	9·65	141·8	6	0·26
Lautoka Hospital	64·8	3	4·34	54·8	3	10·17
Central Leper Hospital ..	565·35	1	5·28	632·78	1	3·72
Levuka Hospital	12·9	5	0·46	13·8	4	11·3
Labasa Hospital	35·99	2	7·34	35·88	3	1·93
Mental Hospital	85·8	2	4·46	84·0	2	4·18
Penang Hospital	11·56	2	2·59	7·42	2	7·4
Nadi	13·31	2	6·38	19·7	1	4·55
Ba	24·9	0	11·21	17·84	1	0·23
Taveuni	27·3	2	0·1	35·73	1	2·95
Rewa	21·82	1	3·	22·7	1	4·04
Kadavu	11·51	1	7·81	11·9	1	7·18
Nadroga	8·21	3	0·42	9·05	3	9·74
Ra	9·70	2	8·97	10·06	2	5·7
Bua	5·76	3	2·71	6·75	3	2·56
Savusavu	7·31	3	5·04	7·52	3	1·67
Lau (Lomaloma)	11·56	2	4·01	15·61	1	11·26
Colo East	9·68	1	9·8	10·23	1	8·7
Rotuma	6·66	3	10·39	6·73	3	3·87

APPENDIX C.

REVENUE, MEDICAL DEPARTMENT.

	1938.	1939.
Head IV—		
1. (i) Dairy Licences, Suva and Levuka ..	£66 0 0	£164 0 0
4. Drug Permits	37 10 0	141 10 6
Head V—		
20. Hospital Fees, Colonial War Memorial Hospital, Levuka, Labasa & Lautoka Hospitals	2,579 4 11	2,920 14 8
22. Meat Inspection Fees	468 16 6	543 1 0
23. Central Leper Hospital Fees	5,534 6 8	5,919 2 4
24. Fees, Plantation Labourers, Lautoka and Labasa Hospitals	800 0 0	1,200 0 0
25. Central Medical School	1,736 10 0	1,755 19 1
Head IX—		
2—(*a*) Makaluva and Nukulau Fees ..	117 9 2	82 10 7
(*b*) Sale of Government Drugs.. ..	179 13 6	175 8 11
(*c*) Fumigation and Disinfection Fees	238 7 11	197 0 3
(*d*) Sale of Stock and General Fees ..	41 16 6	21 0 0
3. Sale of Produce, Makogai	62 15 7	81 11 4
4. Bakery Receipts Makogai	255 9 2	264 9 11
9. Ten per cent. Profits Makogai Canteen .	10 3 7	13 3 6
Total	£12,128 3 6	£13,479 12 1

REPORT BY Dr. G. R. BAXTER, MEDICAL OFFICER OF HEALTH AND PORT HEALTH OFFICER, ON THE WORK OF THE HEALTH BRANCH OF THE MEDICAL DEPARTMENT FOR THE YEAR 1939.

I have the honour to submit the report on the work of the Health Branch of the Medical Department with which I am concerned, for the year 1939.

General.

2. The Medical Officer of Health is an official member of the Suva Town Board and Chairman of the General Purposes Committee, which deals with health matters. He also acts as Adviser to the Central Board of Health, and is a member of the Subdivision of Land Board and the Town Planning Board.

The year has seen the commencement of the employment of native inspectors by the Town Board. The results fully justify the continuance of their employment. The arrangement by which the health activities of the Town Board are controlled by the Government Medical Officer of Health, has worked smoothly and well, and for the first time this report includes work done in the Town of Suva.

Infectious Diseases.

3. *General.*—The year has been free from serious epidemic disease. There was a sharp epidemic of mild influenza early in the year. It spread rapidly round Viti Levu and later to other Islands of the Group.

There was no recognised epidemic of any size of either typhoid or dysentery throughout the year.

General measures in Suva district against infectious diseases included:—

Number of visits in connection with infectious diseases ..	86
Number of premises disinfected after infectious diseases ..	71
Number of premises disinfected for various vermin	52
Articles disinfected at disinfecting station	1,430

Other measures are given with the particular disease concerned.

4. Bacillary dysentery, Hookworm (Ankylostomiasis) and Typhoid (Enteric) fever, are the chief endemic diseases, and the incidence of these will show a steady decline as sanitation is improved. There will, of course, be slight variations in the downward curve, due to abnormal wet or dry years or seasons. The usual tables are given showing notifications of the various infectious diseases according to:—

(1) incidence in the various districts;
(2) racial incidence;
(3) monthly incidence.

The figures, especially those relating to districts disclose interesting facts concerning density and type of population; the extent of medical facilities; the condition of water supplies and general sanitation.

5. *Bacillary dysentery.*—This has, fortunately, again been of mild type. Over 98 per cent. of specimens examined in Suva were of the Flexner type of organism. There has been a slight decrease in the number of cases. No. of cases: 1938, 1,621; 1939, 1,161; case incidence, 5·39 per 1,000 population; case mortality, 3·6 per 100 cases.

The condition again was most prevalent in the early months of the year and Indians were affected in a greater degree than Fijians. Thus centres of Indian population show the heaviest infection. Macuata has the largest number of cases for the year, and Suva rural and the Rewa districts have large returns.

The Town shows the greatest incidence in areas which could be predicted by anybody with a knowledge of their sanitation and living conditions. Toorak heads the list, with nearly half the cases, showing the need for sewerage extensions and street drainage in this congested area. Until the pan latrines in the Town are replaced by a proper sewerage system, dysentery and typhoid will continue to be prevalent. Naigagi is next. Nasinu and Flagstaff areas are again prominent in Suva rural district showing the association of faulty sanitation, flies and lack of water supplies with this disease, and indeed, all excremental diseases.

6. *Amœbic dysentery.*—In comparison with Bacillary dysentery, this is comparatively rare. No. of cases: 1938, 46; 1939, 29.

7. *Typhoid (Enteric) fever.*—The district figures again point to absence of safe water supplies. Rewa heads the list, and Ba, Tavua and Suva rural are places mainly affected. The most cases occurred, as usual, about March and April. As with dysentery, the Indians were affected in greater degree than Fijians. The habits of many tropical races encourage the spread of typhoid and dysentery. These diseases will disappear as proper water supplies are made available, and as sanitation and education advance. No. of cases: 1938, 213; 1939, 130; case incidence, 0·61 per 1,000 population; case mortality, 14·6 per 100 cases. Anti-typhoid injections probably account for the smaller incidence compared with dysentery. Number of anti-typhoid inoculations in Suva district:—1938, 302; 1939, 408.

8. *Hookworm (Ankylostomiasis).*—The incidence of this condition is remarkable in Savu Savu, Taveuni and Lau. It is a disease of bad sanitation, easily preventable, and its incidence indicates lack of sufficient trained native staff for adequate regular sanitary inspections of villages, and for educating the native population in the simple preventive measures. No. of cases: 1938, 1,168; 1939, 792; case incidence, 3·68 per 1,000 population (nearly as high as the incidence of dysentery). The number of cases receiving treatment from the Health Office:—1938, 11; 1939, 31. The work of the "Sanitation Campaign" is closely associated with the reduction in the number of cases

of this disease. The maintenance of latrines in a proper condition after construction is extremely important, and this again implies regular inspection by trained native inspectors. The incidence falls in dry weather, and the disease is reported much more frequently in Fijians than in Indians.

9. *Pulmonary Tuberculosis.*—The incidence of this disease frequently acts as an indication of housing conditions. It is also an " occupational " disease. The figures show a slight decrease for the year. No. of cases: 1938, 322; 1939, 236; case incidence, 1·09 per 1,000 population. Its distribution is fairly uniform and it has been slightly more prevalent amongst the Fijians. Unsatisfactory native housing conditions in native villages, unhealthy tenement buildings in the towns, the pernicious spitting habits, the wet climate and lack of drying facilities, all play their part in assisting the spread of this disease. It presents a problem no less urgent than that of leprosy.

10. *Influenza.*—There was a brisk epidemic throughout the group commencing in May. It was fortunately of mild type, 251 deaths were notified as due to this disease, and 8,092 cases were reported, although there must have been quite as many cases not reported.

11. The epidemic followed several months of constant rain and was immediately preceded in Suva, by a sharp drop in temperature, a particularly heavy rainfall, and a cold persistent and insidious breeze. All classes were affected, but most cases were reported amongst Fijians, who seem to be particularly susceptible and particularly affected by this condition. Mention must be made of the frequency of chills and slight colds contracted by passengers on the boats from Australia and New Zealand, and the possibility of infection being introduced in this manner, and the impossibility of preventing this by ordinary quarantine measures. The press assisted in controlling the outbreak by informing the public of the progress of the epidemic, and by publishing outlines of simple treatment and means of prevention. Circulars on preventive measures were sent to public offices, large stores and business premises, and to motor transport firms. It was not found necessary to close schools or cinemas.

12. *Chicken-pox.*—There were 39 cases notified, slightly less than the previous year.

13. *Small-pox.*—There were no cases of small pox throughout the year. The possibility of its introduction is not forgotten. The following figures relate to vaccinations performed in the Suva district:—

	1938.	1939.
Total vaccinated	1,139	508
Number seen after vaccination	940	324
Number successful	828	167
Percentage successful	88·	51·5

Regular vaccinations have been carried out at the schools. Dried lymph has been tried in the rural districts. A small supply of capillary lymph tubes is maintained in Suva for casual vaccinations.

14. *Dengue.*—In spite of the prevalence of the stegomyia mosquito, only three cases were reported.

15. *Filariasis* (*Elephantiasis*).—This disease is mosquito borne, and is common in certain districts. It is an excellent example of a condition which could be almost eliminated by mosquito control, often by simple and inexpensive methods.

16. *Measles.*—There has been no measles throughout the year.

17. *Whooping cough.*—The figures show a decrease compared with 1938.

18. *Leprosy.*—There were 19 cases reported during the year. Number of examinations of discharged lepers, 27; number of lepers certified from Suva, 21; number of examinations of suspects, 11. There were 51 injections given to lepers awaiting transport to Makogai. This early treatment is a great advantage as sometimes a considerable time elapses before transport is available. The leper barge has been maintained satisfactorily. The provision of improved transport for lepers to and from Makogai is under consideration. Discharged lepers from Makogai were housed, fed and repatriated. The question of a leper clearing station is still receiving attention.

19. *Diphtheria.*—Some 13 cases were reported during the year. There were no deaths. In connection with this disease there were 14 throat swabs taken for bacteriological examination. There were 23 cases treated for immunisation against diphtheria. For many years this disease has presented a problem—sporadic cases occasionally occurring without being followed by the disease in epidemic form, as one would expect. There is no guarantee that this state of affairs will conveniently remain. There is, apparently, something in climatic conditions, etc., which deters and limits the spread of virulent diphtheria organisms. Parents are encouraged to have their children protected from this disease.

20. *Tetanus* (*Lock Jaw*).—Remains about the same, 11 cases being reported.

21. *Puerperal fever.*—Also remains about the same, 14 cases being reported.

PORT HEALTH WORK.

22. This work has been well maintained in its usual high standard. Owing to hostilities the sailing of the immigrant ship, the " Ganges " was cancelled. In spite of hostilities the shipping was actually more than the previous year. The following details are given:—

	1938.	1939.
Number of overseas vessels boarded	155	161
Number of vessels inspected for mosquitoes ..	26	34
Medical inspection of passengers	3,393	3,565
Medical inspection of crews	2,887	2,706
Number of overseas vessels fumigated	12	14
Number of local vessels fumigated	79	75
Number of International Deratisation Certificates issued	11	11

Hydrocyanic acid gas is the standard fumigant used and native assistants are employed under European supervision in this dangerous work.

23. *Anti-plague and anti-rat measures.*—Number of rats destroyed on overseas vessels: 1938, 82; 1939, 2; number of rats destroyed on local vessels, 1938, 79; 1939, 26. In addition to the fumigation of vessels a rat catcher is employed especially in the vicinity of the wharves. The Town Board also employs a rat catcher. Rat infestation is thick about the native restaurants and the fish market in Cumming Street. Little improvement can be expected until the Nubukalou Creek wall on the north side is made satisfactory and rat-proof. The following figures are given:—Number of traps set—wharf area, 9,897; town area, 9,600; number of rats caught—wharf area, 1,664; town area, 1681; Number of rats sent for bacteriological examination, 627. All were negative for B. Pestis.

24. The year saw the arrival of the first flying boat direct from the United Kingdom, via Australia and New Zealand. Number of aeroplanes boarded, 2; number of passengers and crews examined, 34. The menace of aerial navigation to Fiji is important and the strictest precautions will have to be taken if malaria and yellow fever are to continue to be excluded from these Islands. During the year, Quarantine Regulations applicable to aerial navigation were introduced.

25. *Disinfection of imported articles.*—This is carried out as occasion arises. The old disinfecting plant on the wharf has been dismantled and disinfection is now carried out at the new disinfector at the Health Office. It can be used for either steam or formaldehyde gas and works very satisfactorily.

26. *Examination of imported foods.*—The Customs Department reports to the Health Office all cases of foodstuffs in the wharf sheds or Government Bond suspected to be unsound.

BUILDINGS.

27. Good control over new buildings has been maintained during the year. The figures show considerable activity in housing, especially on the outskirts of Suva itself. A much better type of building is being erected, and the advantage of glass windows over the old wooden shutters is being increasingly recognised by people desiring to build. One European officer is fully occupied in dealing with plans and in supervising buildings in the course of erection, outside the Town of Suva. In the Town the Town Engineer acts as Building Surveyor but plans are referred to the Sanitary Authorities for matters affecting Public Health. During the year 110 plans for Suva Town were scrutinized and commented upon. The following figures are given relating to housing, outside the Town of Suva:—

Number of applications received	294
Number of applications approved	268
New dwelling-houses	152
Additions to dwellings	42
Kitchens, bathrooms, etc.	30
Combined stores and dwellings	10
Tenement houses	6
Miscellaneous	54

The number of visits to new buildings was 1,931. The total value of buildings approved was £47,945 and about three-quarters of these buildings (value £31,735) were for the Indian community. Only six of the applications were for " bures " or native type dwellings. The value of wooden and raised floors over earth floors covered with mats, and the value of adequate windows is constantly stressed.

28. *Septic tanks.*—The standard type plan has been amended. The Central Board of Health approved that septic tanks should be requested in new buildings of over £300 in value. There were 28 applications for septic tank installations approved during the year.

29. *Prosecutions.*—There were five prosecutions for building offences during the year.

30. *Insanitary Buildings.*—The following figures are given:—Closing Orders issued, Suva Town, 11; outside Suva, 7; insanitary buildings demolished, Suva Town, 4; outside Suva, 6. The acute housing shortage has to be considered in connection with closing orders. Some sort of housing scheme seems inevitable before long, to remedy the present situation. Building costs remain high, and high prices are charged for even the poorest accommodation. There was distinct activity in building just after war was declared, probably on account of fear of rising costs of building materials, etc. There will probably be a distinct falling off in applications for buildings as prices do actually rise. Regulations dealing with tenement houses and boarding houses are in preparation.

31. *Government quarters.*—Seven new quarters for Government officials have been completed and are in occupation.

32. *Labour housing.*—It is pleasing to report a marked improvement in the standard of buildings for labour lines. The Government labour quarters at Tamavua Depot and Walu Bay have been reported as needing attention to make them more habitable.

HOUSE TO HOUSE INSPECTIONS.

33. In my opinion this is one of the most important features of the work of any tropical health service. The following figures are given:—

	Suva Town.	*Outside Suva.*
Number of inspections and re-inspections	5,212	4,088
Number of written notices for sanitary defects	1,018	1,059
Number of cases of mosquito larvæ	314	406
Percentage of houses with larvæ	6·6	9·9

In Suva Town there has been a steady and continuous decline in the percentage of houses in which mosquito breeding was found, from 24·4 in February, 1939, to 2·3 in December, 1939, a reduction to less than one-tenth of what actually existed early in the year. This alone, in my opinion, justified the work of the native inspectors, without whom this would have been impossible. The incidence of mosquito breeding in houses in the rural district is given as 25·7 per cent., a figure corresponding to that of Suva in the early part of the year. This figure known as the larval index, for a well supervised town with sufficient inspectors, should be maintained at well under one per cent. and it should be kept at under five per cent. in rural districts. A good deal remains to be done in anti-mosquito work in Fiji, and it can only be accomplished with the co-operation of the people. It is pleasing to report a higher degree of " mosquito consciousness."

34. In addition to routine inspections the following institutions have received periodic visits in connection with their sanitation:—New Government Buildings, His Majesty's Prison and Warders' lines, Police lines and quarters, Mental Hospital, the General Hospital and Central Medical School Hostel, Leper quarters, Korovou Depot for the infirm, Public Works Department's labour quarters at Walu Bay and Tamavua, Schools, including Juvenile Industrial School. Owing to the pressure of other duties, no special examinations of school children could be made during the year. Arrangements have been made for some resumption of School Medical Inspections in Suva in 1940. Special inspections of certain schools were made in connection with outbreaks of infectious disease.

35. Shortage of staff and constant changes make it extremely difficult to maintain the immediate outskirts of Suva in a satisfactory condition, to say nothing of the extensive rural area beyond. More trained native inspectors are needed whose work would be limited to district inspections. At present routine inspections suffer when other duties come along, e.g. fumigation duties on ships and cutters; the collection of leper patients from out-stations, and relief duties, etc. The position has been slightly better than in 1938, but the all important regular inspections cannot be reduced except at the cost of increasing insanitary conditions in the districts concerned.

36. *Nuisances.*—The following are the chief nuisances which have been reported exclusive of mosquito larvæ:—

	Suva Town.	*Outside Suva.*
Lack of proper garbage pans	227	40
Dilapidated closets	121	...
Defective pit latrines	2	137
Accumulations of refuse	56	397
Overgrowth of weeds and long grass ..	99	285
Presence of tins, bottles, etc.	101	304
Dilapidated bathrooms..	46	25
Defective kitchens	23	...
Defective drains	47	396
Offences in respect of poultry	41	2
Defective downpipes and gutters	22	24
Defective water standpipes	15	...
Defective wells	3	38
Lack of proper water supply	...	6
Nuisance from dead animals	...	4
Miscellaneous	77	13
	880	1,671

37. *Statutory notices.*—In the Town of Suva 36 Statutory Notices were issued in respect of insanitary premises. Verbal notices are first of all given, followed by written notices. It is not until these have been disregarded that Statutory Notices are issued or prosecutions made. It is very necessary to follow up any instructions given for sanitary defects.

38. *Prosecutions for nuisances.*—The following figures are given:—Total number of prosecutions—Suva Town, 5; outside Suva, 11. Details are as follows:—Non-compliance with Statutory Notices, 2; rubbish offences, 8; failure to maintain privy clean, 3; insanitary drains, 1; mosquito larvæ, 1; annoying a native sanitary assistant, 1.

39. *Anti-mosquito measures.*—Although mosquitoes are fortunately comparatively harmless in Fiji, the importance of mosquito control in the villages in connection with child welfare work must be remembered. There is a distinct connection between infant skin diseases and bites from mosquitoes, bugs, etc. which is frequently almost entirely overlooked. There has been considerable increase in the work of clearing, and the area to be cleared is sufficient to justify the employment of much larger gangs of labour. The cost of labour has to be considered, and here, it is double that in many tropical countries.

40. The anti-mosquito measures in addition to routine inspections of premises, consist of clearing and grading earth drains, clearing of overgrowth on public land, and removal of tins and bottles. Oiling of smaller streams and drains is carried out by drip cans. An article on mosquito breeding places was contributed to the local press and the *Agricultural Journal*, and one of the Town Board lorries was extensively used for anti-mosquito propaganda.

41. Many old trees which were profusely breeding mosquito larvæ have been removed. The presence of cattle near closely settled areas renders anti-mosquito measures difficult, by reason of the cattle trampling over earth drains, causing obstructions, the persistent hoofmarks—which in swampy ground breed mosquitoes prolifically, and because the presence of cattle prevents the oiling of streams, etc. Cattle are to be removed early in 1940 from the immediate outskirts of Suva. Both the fly and the mosquito nuisance will be considerably lessened when the cattle go.

42. In the Town many old deeply scoured earth drains with pockets in the soapstone are breeding places for mosquitoes, and these will be removed with extension of proper road drainage, and adequate storm water concrete channels. Drainage schemes of open concrete storm water drains are essential features of anti-mosquito work in settled areas. A scheme of this nature is in progress at the Hospital site, and another one is developing at Suva Point settlement. There is need for a similar scheme for the Domain residential area. Estimates were prepared for this in 1938 and funds should be allocated to commence this work when possible.

43. The following details are given:—

In Suva Town.

The road drains are now dealt with by the Town Engineer. There are numerous other earth drains which are cleared and cleansed by the Health Department. The street verges and various open spaces have been kept clear of overgrowth of weeds and grass.

Drains cleared and graded	4,480	chains
Grass cut in 1939	8,300	,,
Drip-cans installed	4	

Outside Suva.

Area of land cleared of bush	133	acres
Drains cleared and graded	12,350	yards
New drains dug	1,536	,,
Mosquito breeding trees removed	124	
Number of loads of tins and bottles removed	1,578	
Drip-cans installed	3	

STREET CLEANSING AND GARBAGE REMOVAL.

44. The daily service for Suva Town has been maintained. Improvements to Charles Street are an urgent necessity to enable the garbage lorry, etc., to operate in this rapidly extending part of the Town. There is a twice weekly service for the outskirts. Both services play their part in lessening the nuisance from flies and rats.

45. The following figures are given of the number of loads of garbage dealt with:—Inside the Town area, 1,591; outside the Town area, 310; total number of loads of garbage, 1,901.

46. The garbage service for outer Suva is arranged by the Town Board, which is paid by Government. In all, some 500 premises are dealt with, and this alone must considerably lessen the fly nuisance. This service is much appreciated and is capable of extension. The Public Health Ordinance was amended to permit of a charge being made for these essential services. One lorry is employed on Town cleansing, i.e. removing grass, garden refuse, etc., from street clearing, and drain cleansing. Loads from Town cleansing, 3,363. In addition to the above, the following number of loads of trade refuse from private firms, etc., was dealt with at the Lami Dump. Inside the Town area, 2,435; outside the Town area, 720; total, 3,155. In the outskirts of Suva the following work is done:—

(1) cleansing the foreshore of rubbish, and maintaining public grounds and drains at Suva Point settlement;
(2) street cleansing, and cleaning and grading of existing earth drains at Samabula settlement;
(3) maintenance of Government settlement at Draiba—clearing vacant land, maintaining drains and removing garbage;
(4) cleansing foreshore for about a mile and a half, from Albert Park to Korovou Depot;
(5) removing rubbish (other than garbage) in Suva rural district.

There is a small dump for garden refuse, etc., maintained at Nasese, and one at Suva Point. A small incinerator has been in use at Draiba but its advantage in the wet climate is doubtful, except for providing a certain amount of inoffensive filling for low-lying patches in the vicinity. A considerable improvement has been made in the number of garbage receptacles. Notices issued in respect of defective garbage pans—Suva Town, 227; outside Suva, 40. The Lami Dump is now satisfactory, and is well maintained. The area of tipping is strictly limited and there is no mosquito breeding, and fly breeding is reduced to a minimum. The edges have been built up and a considerable amount of levelling of the site has been done. In a few years this will be quite a useful piece of reclamation. The existing hut for stores, etc., has been maintained. A new soil site for " cover " soil will probably be required in 1940. In Suva Town there are 32 street litter receptacles and 11 street cleaning barrows in regular use. Arrangements for hosing down streets during dry spells have been made. The market street is hosed regularly after market days and this greatly helps to keep the Town clean over weekends.

CONSERVANCY AND SANITARY SERVICES.

47. There is a " water borne " sewerage system for a large part of Suva. It has been overtaxed for some years and the overflow causes frequent complaints and trouble. The Town Board has realised the importance of this problem and improvement in the sewerage arrangements has been made the first item on the " loan works " programme. It is hoped that 1940 will show this work well in progress.

48. Three hundred and thirty pan privies still exist. Comment has been made in connection with infectious diseases. Collection has been arranged for three times a week instead of twice weekly. A daily collection is aimed at, but the replacement of pans by a water-borne sewerage system is an urgent necessity in a Town the size of Suva. Improvements have been made at the

pan washing site. The number of pans disposed of, 35,555. There are two public conveniences in use in the Town. Three others were approved for 1939, but none has been constructed. The urgent need for these is again stressed. Funds have been allocated for their erection. Several important extensions to the sewers have been made. The old sewage tank has been completely demolished, removing a dangerous and extensive source of mosquito breeding. The Sewerage Regulations are in need of revision and new regulations are being prepared for submission to the Board.

49. Outside the Town of Suva, pit latrines, bored hole latrines, or septic tanks are the usual means of disposal. A few old latrines over the sea exist in some of the remoter villages, and at the quarantine islands, but in my opinion they should not be encouraged in the future. There were 137 notices given in respect of unsatisfactory latrines.

50. The Central Board of Health has tried to formulate a policy concerning conservancy arrangements and drainage schemes for different classes of " settlements," and which will serve as a guide in all future developments.

WATER SUPPLY.

51. There is little to report in this connection. The number of samples taken during the year was 228. The results of bacteriological analysis and comments are given in a separate schedule. Complaints are still received of the discolouration of Suva water supply, after heavy rainfalls. Chlorination of the shipping main has given, for the most part, satisfactory results. The need for the chlorination of the whole of the Suva water supply has been stressed wherever possible. It cannot be too strongly urged that one of the main needs of any Town or district, especially in the tropics, is a safe water supply and that money expended in this way is amply rewarded, by the prevention of costly epidemics and the prevention of endemic diseases. There were 10 water samples taken from various shallow wells in the rural districts. In all cases the results were unsatisfactory.

52. *Suva Sea Baths.*—Regular samples were taken and 65 tests have been made during the year. Results and comments are given in a separate schedule. Considerable improvements at the baths have been made during the year. The results of the bacteriological analysis emphasise the need for filtration and a chloramine process before the baths can be considered first rate. The Caretaker's quarters were reported as being without lavatory accommodation. They are to receive early attention in 1940.

53. I would again stress that the Suva sea baths could be one of Suva's big attractions for overseas visitors as well as local residents, and it is worth while to make every effort to improve them wherever possible, to make up for the lack of beach bathing facilities. The present facilities compare unfavourably with other places in view of modern requirements.

FOOD INSPECTIONS.

54. Dairies, milk and ghee are dealt with under a separate heading. Meat and butchers' shops are also dealt with. Regulations for betterment of conditions in food premises are being considered by the Central Board of Health.

55. Food has mainly been supervised by the Senior Sanitary Inspector of the Central Board of Health. Close co-operation has existed between the Food Inspector of the Central Board of Health and the Chief Sanitary Inspector of the Town Board in connection with premises in Suva Town.

56. The present market arrangements in Suva cannot be described as satisfactory. The new markets have been included in the Loan Works Programme. It is hoped that building will be commenced in 1940. Regular inspections of food premises have been made as follows, the figures include inspections in Suva Town and Suva rural district. Bakehouses, 69; restaurants, 259; aerated water factories, 38; kava saloons, 69; general stores, 540; ice-cream vendors and premises, 94; markets—(municipal and street markets), 34. Hawkers dealing in food are supervised by the Department. Considerable improvements have been made in kitchens of restaurants in several instances. Vehicles used for carriage of meat, bread, vegetables, ice-cream, etc., come up for scrutiny before being licenced and are periodically examined. Food premises improved, 77; prosecutions in respect of food premises and vehicles, 14.

57. *Food sampling.*—There has been a considerable increase in food sampling under the Pure Food Ordinance and in all 87 samples have been taken, exclusive of milk, the majority being aerated waters, mustard oil and ghee. There has been a considerable increase in the amount of foodstuffs condemned—both perishable goods and tinned foods, etc. A good deal is brought to notice by dealers or the Customs Authorities, but there must be a good deal of food unfit for consumption disposed of in the rural districts where there is no inspection.

SPECIAL INSPECTIONS.

58. Laundries and barbers' shops are regularly inspected and supervised so far as possible. Both are closely concerned with Public Health. Special Regulations exist for their control. Considerable improvements are being asked for in laundries in 1940. The chief, is complete separation of working part of laundries from native living accommodation. Until this is done, complaints of unsatisfactory and even infested returned washing will continue. Following representations to the Town Board, several laundrymen were permitted to keep their ponies in Toorak until the end of the year. The presence of horses in this congested tenement district is a distinct menace to the health of the children—especially as regards infantile diarrhœa, dysentery and typhoid.

MILK, DAIRIES AND GHEE.

59. The Sanitary Overseer who was specially appointed for work in connection with dairies has done excellent work. Owing to staff shortages he had to be transferred to Nausori as Sanitary Overseer for the Township and the sanitary district of Rewa. The dairies in Suva rural district are being taken over again by the Health Office. The following figures are given:—Number of registered dairies, 23; number of dairy cattle, 1,105; number of visits of inspection, 158; number of improvements carried out, 50; number of new dairies constructed, 5. The following important advances are included in the improvements:—Pipe water supply laid on, 5; hot water service and steam sterilisers installed, 4; new utensils provided, 11; milk room made fly-proof, 2. Six prosecutions were made for offences in connection with dairies.

60. *Milk sampling—raw milk.*—Two hundred and six samples were taken in all. Legal proceedings are usually taken if samples are found to contain over five per cent. added water. Eighty-nine per cent. of samples contained less than this amount, and were considered to comply with requirements. The figures are as follows:—

Less than 5 per cent. added water	184
From 5–10 per cent. added water	7
From 10–20 per cent. added water	8
Over 30 per cent. added water	7
Total ..	206

The position with regard to milk fat (cream) is similar. The legal standard is 3·2 per cent. milk fat. It is the custom to take legal action for under three per cent. milk fat. Samples of normal milk show that this allows a very fair margin. Ninety-one per cent. of samples complied. The figures given are as follows:—

Not less than 3·2 (legal standard)	173
Between 3·0 and 3·2 per cent. milk fat ..	16
Between 2·5 and 3·0 per cent. milk fat ..	13
Between 2·0 and 2·5 per cent. milk fat ..	4
Total ..	206

61. *Pasteurised milk.*—The position with regard to pasteurised milk is not very satisfactory. The standard for pasteurised milk has been fixed by regulation. The quality of pasteurised milk became lower towards the end of the year. The Rewa Dairy Company is not continuing to supply pasteurised milk after the end of December, 1939. There is now no other local firm supplying pasteurised milk in Fiji. The following figures are given in connection with sampling:—Total number of samples, 113; samples of bottled milk as supplied to customers, 102. Ninety-one per cent. complied with the standard for the general bacterial content. Sixty-four per cent. complied with both standards. Several samples gave extremely unsatisfactory results for a food supposed to be specially suitable for infants and young children. The question of a Government milk depot might be raised again with advantage, or the possibility of a small plant for pasteurising supplies for the hospitals and other Government institutions might be discussed.

62. *Meat.*—This is under the supervision of the Senior Sanitary Inspector of the Central Board of Health, who is a fully qualified Meat Inspector, and daily visits are made so far as possible to the slaughter houses which supply meat to Suva and the butchers' shops are carefully supervised. The Tamavua slaughter house has been considerably improved during the year. There is no slaughter house erected and managed by the Government. The offensive trade premises near the slaughter house should next come up for improvements. The following figures are supplied:—Visits to slaughter houses, 1,222; carcases inspected, 3,645; prosecutions for meat offences, 3. The figures supplied show that tuberculosis is by far the commonest reason for condemnation of meat. Out of 92 carcases condemned, 79 were condemned due to a generalised tuberculosis, a percentage of 85 per cent. It is pleasing to note the fewness of offences in connection with slaughter houses and butchers' shops. The quality of beef and pork compares exceedingly well with most other tropical countries. Plans for one slaughter place for goats were approved. Hides are treated by salting and are exported in this condition.

METEOROLOGICAL.

63. Figures supplied by the Harbour Master are included in a separate schedule. The year has again demonstrated the differences in the monthly figures for the rainfall for different years:

	1937.	1938.	1939.	*Average.*
January	8·78	12·53	30·71	11·51
February	8·29	8·45	5·71	11·36
March	17·53	8·54	23·06	14·82
April..	12·13	4·96	16·98	12·32
May	16·49	11·58	22·88	10·58
June	2·23	4·84	2·07	6·38
July	4·76	14·32	6·53	5·27
August	11·46	7·05	6·55	8·15
September	6·95	15·68	6·25	7·75
October	6·63	19·61	8·63	8·86
November	5·87	20·77	10·82	10·14
December	5·51	30·52	6·96	12·50
Totals ..	106·63	158·85	147·15	119·64

REVENUE.

64. The following table is a summary of revenue earned during the year:—

Dairy Licences, Navua		£32 0 0
Dairy Licences, Suva		24 0 0
Meat Inspection fees	£405 17 6	
Fines (legal proceedings)	175 0 0	
Fumigation fees	200 0 0	
		780 17 6
Clearance of bush for private individuals		10 15 0
Sale of slabs		183 6 6
		£1,030 19 0

The revenue earned this year is £203 8s. 1d. more than in 1938, but £183 6s. 6d. is for the sale of slabs, which was not included in last year's report, as this work was formerly done by the Sanitation Campaign controlled by Dr. Lambert.

SUBDIVISION OF LAND.

65. This Ordinance is controlled by the Director of Lands, Mines and Surveys. It very closely concerns the Health Authorities however, and it means a considerable amount of work on the Sanitary Staff. It is a most important " public health " measure, controlling the layout and development of building sites. Six applications were submitted, four were approved and two were withdrawn.

MILITARY ARRANGEMENTS.

66. Matters affecting the health of the troops have been carefully watched and much useful advice given. Quarters, kitchens, bath places, etc., have been regularly inspected, and arrangements made in connection with garbage and conservancy. Blankets, etc., have been steam disinfected when necessary. The health of the troops has been good.

TRAINING OF SANITARY PERSONNEL.

67. The new Town Board Inspectors were trained in their duties and in general elementary sanitation. Sanitary Overseers and Inspectors were given classes in Sanitary Law by Mr. de Carteret, after arrangement with the Commissioner of Police. The final year students of the Central Medical School were given classes in Public Health.

PROPAGANDA.

68. This is constantly going on during routine visits of inspection, and when disinfection of premises is done. An article on local mosquito breeding places was contributed to the local paper. Thanks are due to the press for valuable assistance in this propaganda. A broadcast talk was given by Dr. Isaac on mosquitoes, and preventive measures against them. Classes in Hygiene and Public Health were arranged for St. John's Ambulance Members. The lorries employed by the Town Board were used extensively for health propaganda, with brief and striking health slogans. The office entrance hall is also used to spread public health knowledge by posters, photographs and other exhibits.

RECOMMENDATIONS FOR FUTURE WORK.

69.—(*a*) Extensions and improvements to the Suva Sewerage system.

(*b*) Improvements and chlorination of Suva water supply.

(*c*) Surface water drainage improvements in the congested Toorak area.

(*e*) Addition to staff of native inspectors to enable adequate inspection of the districts to be made.

(*f*) The time seems appropriate for the consideration of definite School Medical Services, including Medical and even Dental Clinics.

REMARKS.

70. Steady progress has been made throughout the year. There is still a good deal to be done. I have to acknowledge with thanks, the willing co-operation of all members of the staff.

RESULTS OF BACTERIOLOGICAL EXAMINATIONS, SUVA SEA BATHS, 1939.

Number of samples	65
Bacillus Coli present in—	
0·5 c.c.	1
1·0 c.c.	7
3·0 c.c.	19
5·0 c.c.	21
10·0 c.c.	12
25·0 c.c.	3
Not present in—	
25·0 c.c.	2
Highest bacterial count per c.c.	12,000
Lowest bacterial count per c.c.	7

English standards for modern baths are:—No Bacillus Coli in 100 c.c.'s. Standard Bacterial Count, not more than 100 per c.c. It will be seen how far short of these standards are the Suva results.

TABLE I.—INFECTIOUS DISEASES—NOTIFICATIONS BY DISTRICTS, 1939.

Diseases.	Suva Urban.	Suva Rural.	Rewa.	Colo East.	Ra.	Colo North.	Ba.	Tavua.	Lautoka.	Nadi.	Nadroga aud Colo West.	Navua and Namosi.	Macuata.	Bua.	Savu Savu.	Taveuni.	Lomaiviti.	Lau.	Kadavu.	Rotuma.	Total.
INTESTINAL CONDITIONS.																					
Ankylostomiasis	13	16	30	5	..	..	2	6	52	6	9	..	35	..	183	248	6	181	..	..	792
Dysentery, amœbic ..	2	4	1	..	..	4	..	..	..	1	..	1	1	..	..	11	1	3	..	..	29
Dysentery, bacillary ..	95	146	102	..	17	4	78	127	108	92	66	33	176	5	35	1	26	37	13	..	1,161
Enteric fever	8	12	47	1	5	..	19	10	1	6	1	5	8	..	3	..	4	..	..	..	130
Infantile diarrhœa ..	1	..	31	2	3	..	17	1	7	..	..	1	3	22	..	..	14	10	1	..	113
CHEST CONDITIONS.																					
Pneumonia, broncho ..	4	1	12	14	..	1	27	12	4	28	9	9	18	1	..	3	8	18	..	..	169
Pneumonia, lobar	6	1	8	6	9	2	15	16	2	9	4	..	48	1	1	19	19	6	..	..	172
Tuberculosis, pulmonary ..	8	8	16	2	16	16	28	9	35	11	11	9	16	3	5	3	20	9	7	4	236
GENERAL.																					
Tuberculosis, other forms	..	..	..	..	1	..	2	..	1	1	..	..	5	..	..	..	2	..	1	..	13
Influenza	249	221	1444	..	270	..	17	28	874	524	11	..	2520	54	133	50	1416	177	..	104	8,092
Chicken-pox	3	4	4	..	..	4	..	..	3	..	1	..	7	..	..	3	..	..	2	8	39
Dengue fever	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	3
Diphtheria	2	1	1	..	1	..	3	..	1	4	..	..	..	..	..	..	..	..	..	..	13
Whooping cough	2	..	15	..	..	48	3	..	2	47	96	2	1	41	..	..	1	..	..	..	258
Leprosy	1	..	..	2	1	..	..	1	1	..	1	..	6	..	..	1	1	4	..	..	19
Tetanus	1	1	..	..	..	..	..	..	2	1	1	..	1	..	1		..	2	1	..	11
Puerpural fever	..	4	3	..	..	..	4	..	..	1	..	2	..	..	..	..	..	..	..	..	14
Trachoma	13	13	28	5	..	3	10	8	13	2	2	11	14	..	2	..	23	..	3	..	150
Venereal diseases	24	6	7	..	9	1	30	6	54	19	5	..	38	1	11	11	8	5	..	..	235
Total ..	432	438	1750	37	332	83	256	224	1160	752	217	73	2897	128	374	350	1549	452	28	117	11,649

TABLE II.—INFECTIOUS DISEASES—NOTIFICATIONS BY RACES, 1939.

Disease.	European.	Fijian.	Indian.	Others.	Total.
INTESTINAL CONDITIONS.					
Ankylostomiasis	20	587	177	8	792
Dysentery, amœbic	1	18	10	..	29
Dysentery, bacillary	39	427	642	53	1,161
Enteric	1	57	69	3	130
Infantile diarrhœa	..	87	26	..	113
CHEST CONDITIONS.					
Pneumonia, broncho	..	110	57	2	169
Pneumonia, Lobar	1	84	86	1	172
Tuberculosis, pulmonary . ..	2	152	68	14	236
GENERAL.					
Tuberculosis, other forms ..	..	7	5	1	13
Influenza	187	5,420	2,065	420	8,092
Chicken-pox	..	23	8	8	39
Dengue fever	..	..	2	1	3
Diphtheria	2	1	9	1	13
Whooping cough	..	248	8	2	258
Leprosy	..	10	7	2	19
Tetanus	..	8	3	..	11
Puerperal fever	..	..	14	..	14
Trachoma	2	117	25	6	150
Venereal disease	11	55	142	27	235
Totals ..	266	7,411	3,423	549	11,649

TABLE III.—INFECTIOUS DISEASES—MONTHLY INCIDENCE—1939.

Disease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
INTESTINAL CONDITIONS.													
Ankylostomiasis	94	38	144	147	12	63	95	99	22	39	23	16	792
Dysentery, amœbic	8	3	3	2	..	3	1	5	1	1	1	1	29
bacillary	187	236	258	131	122	80	48	22	22	16	18	21	1,161
Enteric fever	17	9	4	34	13	4	6	5	16	11	2	9	130
Infantile diarrhœa	34	14	17	3	2	..	5	2	8	5	12	11	113
CHEST CONDITIONS.													
Pneumonia, broncho	9	8	10	12	10	34	19	19	11	16	10	11	169
lobar	10	5	7	10	15	34	8	23	17	9	26	8	172
Tuberculosis, pulmonary . ..	15	17	10	12	27	20	30	28	18	16	18	25	236
GENERAL.													
Tuberculosis, other forms ..	..	..	1	..	3	1	1	..	4	..	2	1	13
Influenza	..	..	..	..	1,643	6,133	173	93	..	11	13	26	8,092
Chicken-pox	3	2	..	..	6	7	..	5	4	6	3	3	39
Dengue fever	1	1	..	..	1	..	..	..	..	..	..	..	3
Diphtheria	..	..	3	..	3	2	..	1	2	1	1	..	13
Whooping cough	143	100	13	..	1	..	..	..	..	..	1	..	258
Leprosy	1	..	3	2	..	1	4	1	5	..	2	..	19
Tetanus	..	2	2	1	1	..	1	1	..	3	..	..	11
Puerperal fever	2	1	1	1	1	1	1	3	2	1	..	..	14
Trachoma	7	12	27	8	4	13	14	14	11	12	14	14	150
Venereal disease	27	16	32	29	15	19	22	13	9	14	22	17	235
Totals ..	558	464	535	392	1,879	6,415	428	334	152	161	168	163	11,649

RESULTS OF BACTERIOLOGICAL ANALYSES, SUVA WATER SUPPLY, 1939.

	Main Storage Reservoir.	Toorak Reservoir.	Shipping Reservoir.	Shipping Main Wharf	High Level Main Town.	Low Level Main Town.	Low Level Main Tamavua.	Total.
Number of Samples	18	18	18	45	43	43	43	228
Bacillus coli present in—								
0·01 c.c.	....	....	....	..	..	2	9	11
0·1 c.c.	....	2	2	..	3	6	22	35
0·5 c.c.	1	5	2	2	7	19	7	43
1.0 c.c.	6	2	4	3	11	8	4	38
3·0 c.c.	4	4	6	1	14	7	....	36
5·0 c.c.	5	4	4	3	5	..	1	22
10·0 c.c.	2	1	....	10	3	2	....	18
25·0 c.c.	....	....	....	4	..	..	....	4
Not present in—								
25·0 c.c.	....	....	....	21	..	..	....	21
Highest Bacterial count per c.c. ..	5,000	15,000	29,000	6,400	4,000	5,000	15,000	..
Lowest Bacterial count per c.c. ..	15	20	40	4	23	25	60	..

Allowing a margin for tropical water, the low standard of no typical B. Coli in 5 c.c. is suggested.

Only 43 samples or 18·8 per cent. conform to this requirement, and of these 35 are from the chlorinated shipping main.

The low level main as usual is consistently bad. The table emphasises the need for chlorination of all Suva water mains, before the water can be considered beyond reproach for a public water supply.

REPORT BY Dr. E. V. MAXWELL, MEDICAL OFFICER IN CHARGE, COLONIAL WAR MEMORIAL HOSPITAL.

I have the honour to submit the following report on the Colonial War Memorial Hospital for the year ended 31st December, 1939.

Additions and Improvements during 1939.

In chronological order the following structural alterations and additions, and improvements of buildings and equipment, have been made during the year.

(*a*) At the beginning of the year one of the two-bed middle wards was reconstructed to form separate cubicles containing bathroom, W.C., and pan sluice room for private ward cases, who previously had enjoyed no separate sanitary facilities. At the same time the previous European ward sterilising room and ward kitchen was transformed into a new single bed private ward, and waste space at the head of the main staircase and over the Hospital entrance was built-in to make two separate compartments for ward sterilising room and ward kitchen. These changes have been a great improvement, except for the fact that the middle ward accommodation, which could least spare them, has been diminished by two beds.

(*b*) At the end of February three new houses in concrete, close by the Hospital and in its compound, were completed and shortly afterwards occupied by Native Medical Practitioners. These houses are intended for post-graduate students. They are well built but some improvements are necessary in them, such as provision of electric light and shelves, whilst the formation of an access road to them is also required.

(*c*) In March play was begun on the hard tennis court which had been constructed for the use of the nursing staff near to their quarters. This is used regularly and is a source of constant enjoyment as a means of providing regular exercise for the staff. It is hoped to provide a small pavilion alongside it in 1940. A swimming bath would be well worth considering, for the use of the European staff of the Hospital, in connection with any future provision for their recreation and exercise, which is important in their work in this climate.

(*d*) In April a new and larger telephone switchboard was installed in a small room away from the main office where the board previously was. Additional telephones were also connected up to wards previously without. With two telephone operators working in shifts from 7.30 a.m. to 10.30 p.m. a greatly improved telephone service is now maintained in the Hospital, and it is intended to improve this still further by employing a third operator in 1940 and so to complete a full 24-hour service. Still greater efficiency would be attained if very necessary additional lines to the exchange were added. A total of sixteen telephones (12 in the Hospital, Laboratory and Medical School and those in the residences of four officers) are served by only two lines, with the result that at times it is impossible to obtain connection with an outside telephone number for a considerable time; both available lines being engaged. This has been a source of great inconvenience on occasions. An additional telephone connected to the switchboard is required in the laundry.

(*e*) In May the old system of keeping out-patient records in the European out-patient department in a daily record book was done away with, and a new system of card indexed out-patient folders introduced. This allows continuous records of patients to be kept in easily accessible form, when the old method meant tedious search in the diary for previous attendances of returning patients, who usually had forgotten the date of the previous visit.

(*f*) Towards the end of May the new Children's Ward, which had been completed at the beginning of March, was occupied. It had not been possible to bring it in to use before, because of the late delivery of some of the essential equipment. The ward is well equipped, is popular with the children, and has improved the situation as regards accommodation in the Native women's ward to a considerable extent, this being the ward to which children formerly had to be admitted. Later in the year a large rocking horse was given to the ward by two members of the Board of Visitors and is a source of great enjoyment to the small convalescents.

(*g*) The extensions to the X-Ray Department, begun in 1938, have been completed and the new dark room and accessory rooms were brought into use at the middle of the year. In December, new developing, washing and fixing tanks were fitted into the new dark room.

(*h*) In July a reconditioned spinal bed on wheels was purchased to enable cases of spinal disease and injury to be taken out in to the fresh air occasionally. It has given great pleasure to the one patient for whom it has so far been used.

(*i*) At the end of October work was completed on the installation of a new lift. The old lift had been condemned as unsafe in June, and for four months patients had to be carried up and down stairs, which was a source of grave inconvenience and of possible danger. Work began in August on the task of replacing the old lift by a new improved automatic one, by Waygood–Otis of Sydney, which has special safety devices. It is almost fool-proof and is giving excellent service. It is inspected at weekly intervals. The existing lift well is badly placed, being situated at one end of the main building, which entails the passage through the European men's ward of cases from the Private and European Women's wards on their way to and from the operating theatre and the X-Ray department. The objections to this do not require description, and it is hoped at some future date to instal a second lift in a central site.

(*j*) At about the same time as the above, work began on confining to concrete channels the numerous watercourses that meander through the gullies which form a considerable part of the Hospital compound. This work was part of a comprehensive scheme of drainage of the Hospital site and will be continued in the future. This work could well be correlated with a suggestion made, to plan now and carry out gradually, the levelling of the Hospital compound in order to make available land for any future extensions that are necessary, for example for an obstetric ward, an isolation block, additional or improved quarters, orphanage, etc. At present the state of the land about the existing Hospital buildings almost entirely precludes extending the Hospital in any direction other than upwards.

(*k*) At the beginning of November testing of the new laundry machinery, and of the steam and hot water services which are provided from it to the Hospital, began, and the new services were in use in the second week of that month. The laundry building has been described briefly above. Its machines are steam heated and electrically operated. The steam service is extended to the Hospital for the operation of steam sterilisers and hot water urns, and of calorifiers for a completely new hot water service. Although several important sections of the work are as yet incomplete, the existing improvements are a great boon. A constant supply of clean, dry linen is now assured in all weathers, and the old unsatisfactory method of sterilising utensils and instruments in equipment heated by " Primus " stoves is now a thing of the past, except in two wards where work has not yet commenced on the installation of the services. A separate report has been submitted on the work yet to be done in connection with the laundry. Associated with the laundry work, a short new road was cut from Brown Street to give direct access to the laundry building for easy delivery of supplies of fuel.

(*l*) A chute has been constructed leading to the lower level of the laundry where there was an unoccupied space, and this area is now used for storage and cutting firewood for supply to the kitchens of the Hospital and Nurses' quarters.

(*m*) At the beginning of December work was completed on the fitting of a shower in a new cubicle in the surgeon's dressing room attached to the operating theatre. This now allows of a very necessary and very welcome shower after a hot morning's work in the theatre.

(*n*) A fly-proof shed, open to the air all round, has been built to contain the Hospital rubbish tins. A water supply is laid on for cleansing the tins and steam is to be laid on for sterilising them.

(*o*) In the middle of December Sir Maynard Hedstrom made the Hospital a most handsome gift in the form of the latest advance in ultra-short wave diathermy machines. The new " Inductotherm " was immediately brought in to use and will be of immense value in allowing of the treatment of numerous cases that could not recently be treated, owing to the breaking down of the old high frequency diathermy apparatus at the end of 1938. It only remains now to wire the wards to allow of the use of the new machine in all parts of the Hospital. This wiring could well be correlated with that for the mobile X-Ray plant, which cannot yet be used (though is was delivered towards the end of 1938,) because a suitable converter and power points are not available for it.

As the exteriors of the new quarters for the European nursing staff and of the laundry are painted cream with green roofs, it is hoped that the same form of exterior decoration will be carried out for the Hospital proper, for the Medical School and for the Laboratory, in order to relieve their grim appearance and to keep the look of the whole collection of buildings uniform.

The question of new and adequate accommodation for the Native nurses has been under consideration during the year, as they are at present housed in what were the old quarters for the European staff. This building is not satisfactory, mainly because of state of disrepair, and partly because of its unsuitable layout.

STAFF.

Establishment.—The Hospital staff consists of the following:—

(*a*) *Medical Staff.*—(*i*) There are three European Medical Officers of which only two are permanently attached to the Hospital. The Director of Medical Services, the Honourable Dr. V. W. T. McGusty, O.B.E., is the Consulting Medical Officer. The work of Physician and Surgeon to 172 beds and cots, and of administration of the Hospital, is carried out by the Medical Officer in Charge, who is also a member of the Suva District Liquor Permit Committee, of the Central Medical School Advisory Board, and of the Opium Addicts Board. The Assistant Medical Officer is Physician to the male Native Medical Ward (34 beds), officer in charge of the Out-patients Departments, Radiologist and Anæsthetist. These officers are also lecturers to the probationer nurses, and to the medical students, and are members of the Medical School Faculty. It would be of advantage if the Medical Officer in Charge or the Steward and Clerk were a Justice of the Peace, to facilitate completion of declarations and other documents that are otherwise delayed till a Justice of the Peace or District Commissioner is available.

(*ii*) The European medical officers are assisted by Native graduates of the Central Medical School. The Dispenser is N.M.P. Vilikesa Ramaqa who also acts as relieving anæsthetist, and is lecturer in Materia Medica and Pharmacy at the School I.M.P. Haniff is in charge of the non-European out-patients department, with occasional assistance from Native Medical Practitioners temporarily attached to his departnent during post-graduate courses, or during short stays in Suva while in process of transfer. Medical students in their third and fourth years of study are trained in clinical and practical work in the wards and special departments of the hospital, and during these two years act as dressers and male nurses to the cases allotted to them. Two male Fijians are employed for the necessary duties of male nurses between the hours of 9 p.m. and 7 a.m.

(*b*) *The Nursing Staff* at December 31st consisted of the Matron and Nursing Superintendent, Miss L. M. Lea; the Assistant Matron, Miss J. Sinclair; a Home Sister and Dietitian; one Staff Sister; one X-Ray Sister who is radiographer; eight Sisters; two Staff Nurses; and ten probationer nurses. There are also two trained Native Obstetric Nurses and twenty-seven Native trainees.

(*c*) *Administrative and other staff.*—The Steward and Clerk, Mr. A. S. Martin, is assisted by a stenographer, Miss L. Miller, and by a male Native Clerk. A Fijian is employed as hall porter, and Indians as the ward servants, cooks and kitchen hands, garden boys and laundry boys. The engineering work of the laundry and its associated services is done by a separate staff under the control of a European engineer, Mr. Lee, and all of these are members of the Public Works Department.

WORK IN THE HOSPITAL.

Beds and cots available number 206 (183)—beds 150 (139); cots 48 (36); and beds in the lazarette 8 (8). The figures for 1938 are given in parenthesis. The number of cots includes those available for the at present unused orphanage building, i.e. 6.

(*a*) *Admissions* during the year totalled 2,912 which is an increase of 339 on last year's figures. Comparative figures for the years 1938 and 1939 are shown in the table below, which also shows the racial distribution of cases:—

	1938.	1939.
Europeans	328	361
Fijians	734	739
Indians	1,152	1,362
Others	359	450
Total ..	2,573	2,912

The daily average of occupied beds has been 141·8 (105·18 in 1938) and deaths numbered 269 (9·16 per cent.). The total of diseases treated was 3,542 and a detailed classification of these diseases is attached as Appendix I. This classification differs from that given in last year's annual report in that it shows the total number of diseases treated, and not, as last year, the number of cases admitted classed under the main disease from which they were suffering. The method of presentation used this year is that in use in other Colonies and was formerly the rule in Fiji. It has been reverted to because it demonstrates with greater accuracy the work done in the Hospital, and also because the mode of setting out Appendix I in 1938 and recent years gives a false statistical incidence of certain conditions, for example intestinal infestations, seldom the sole cause of admission.

The list of classes of diseases used up to the present has not allowed of comparison of our figures with those of other Colonies, so recently a revised list has been prepared at the Hospital and printed for introduction throughout the Colony. This list is based on the International list of causes of death. At the same time also an improved death certificate was prepared. Both of these measures will allow of the preparation of more accurate statistics than have been possible, and also of figures that will be comparable with those of other places. Both will be in use from the beginning of 1940.

(*b*) *Operations and Anæsthetics.*—Operations performed numbered 942; 249 major and 693 minor ones. In order to perform these operations 639 anæsthetics were administered, being given to a few cases by request by Dr. Paley, and to the remainder by the Assistant Medical Officer, a Native Medical Practitioner or by a student under supervision. Details of operations performed and anæsthetics given are set out in Appendix II to this report.

(*c*) *Ward Work.*—(i) *General.*—The opening of the new Children's ward has partly relieved the problem of accommodation, but more bed space is required for Native women, for male Native surgical cases, for Middle ward patients, for Native tuberculous cases of both sexes, and for orphans. These last are a special problem, and a separate report has been submitted containing suggestions for their future accommodation, as at present they occupy valuable beds and cots in the Children's ward. This arrangement has obvious objectionable features, for example the possibility of infection of healthy orphans from cases of illness. As they have nowhere to play other than in the ward and are full of spirits, they can come into contact with infectious cases unless, as impossible, they are watched continuously. This has been proved this year when several orphans died from the effects of infectious diseases that would have been prevented if they had had separate accommodation.

It is hoped to open the old emergency isolation building early in 1940 as a Tuberculosis annexe, which will relieve the congestion in the female Native ward and the male Native medical ward. The opening of this annexe will bring the Hospital bed capacity to about 226. It can be seen therefore that soon the question of increasing the European medical staff will have to be faced, as completely efficient work is possible now only by taxing the existing staff fairly heavily. The appointment of a House Surgeon would be a relatively inexpensive way of lightening the burden.

The question of available accommodation and of matters dealing with other sections of the Hospital work have, of course, been given special consideration lately as a result of the outbreak of war at the beginning of September.

The non-European out-patients department is still overtaxed, there being only two small rooms available to deal with the cases attending (29,674 this year), but as stated in last year's annual report, the proposed Health Centre will solve this problem when it is built.

The work in the wards has been varied and interesting, and special mention will be given below to some of the more interesting aspects of the year's work.

(*ii*) *Obstetric Ward.*—This has been no less popular than formerly, and the lack of adequate bed capacity (there are only nine beds) and of a separate labour room with proper equipment still make themselves felt. All cases have to be delivered in the general ward, screened off only by a curtain, and so all the inmates constantly lose sleep. In spite of these severe handicaps very good work is being done, as will be seen from the following details.

	1938.	1939.
Admissions—	285	284
(i) Births—Fijians	81	107
Indians	115	113
Others	44	36
Total births	240	256
(ii) Not in labour	45	28
Maternal deaths..	3	3
Neo-natal deaths	9	6
Stillbirths	10	4

Of the maternal deaths (1·17 per cent.) one was due to eclampsis, one to pre-eclamptic toxæmia and one to rupture of the uterus following Cæsarean section for eclampsia in 1938.

Of the neo-natal deaths, five were due to pre-maturity and one to hydrocephalus.

The following obstetric complications were dealt with, and obstetric operations performed: Cæsarean section, 1; forceps deliveries, 8; internal podalic version, 1; episiotomy, 17; premature deliveries, 7; breech presentations, 1; head and hand presentations, 2; persistent occipito-posterior, 6; prolapsed cord, 1; hydramnios, 5; pre-eclamptic toxæmia, 2; eclampsia, 8; ante-partum hæmorrhage, 2; post-partum hæmorrhage, 14; severe, 4, mild, 10; retained placenta, 3; asphyxia livida, 8; asphyxia pallida, 4.

At the ante-natal clinic 44 patients attended on 105 occasions, Fijians, 23; Indians, 11; Others, 10: at the post-natal clinic two Fijians, two Indians, and six others paid 28 visits.

Special mention is made, in the section dealing with interesting cases, of the treatment of eclampsia. It is hoped that in the near future a separate fully equipped and separately staffed obstetric block will be built, to allow of the ever increasing work of this ward to be carried out under the necessary ideal conditions, and to allow of the work being done by one full-time Sister who will be able to encourage patients to attend the ante- and post-natal clinics.

(*iii*) *Special Departments.*—The Hospital has been fortunate in having had brief visits from two ophthalmologists during the year, Drs. Beveridge and Claffy, both of whom were kind enough to see ophthalmic cases here. The repetition of such visits is looked forward to, but for more prolonged periods. A more satisfactory alternative would be to have a permanent honorary ophthalmologist.

Towards the end of the year there was a most valuable, though unfortunately only temporary, appointment to the Hospital staff of a European chemist as Dispenser. He did extremely good work during his short period of service, and, though the Native Medical Practitioner gives very satisfactory services, it was well borne out that such an appointment should be a permanent one. It was shown that with the services of such an officer, efficiency—and thus safety—increased, the teaching of students improved, and many economies were possible.

(*d*) *Epidemics.*—(*i*) The Dysentery outbreak, described in last year's annual report on the Hospital as starting towards the end of 1938, continued into 1939. On February 28th it was found necessary, because of the limited accommodation for female Native cases, to open the emergency isolation ward to take the overflow of dysentery convalescents from the women's ward. It was closed again on March 14th, and by March 31st there were very few cases of dysentery being admitted. As in 1938 the cases were practically entirely of Flexner bacillary infection in Indians from all parts of Suva and its environs.

(*ii*) *Influenza.*—Brief mention of this has already been made in dealing with sickness among the staff. Towards the end of May there was a sudden outbreak of this disease, which in a very short time had affected practically the whole population of Suva. It later spread to the rest of the Colony. On May 23rd it was considered advisable to close the Hospital to visitors, and this measure was maintained till June 6th. By May 26th only six out of forty medical students were on their feet, and by May 29th 67 members of the Hospital staff (excluding students) were off duty with influenza. The running of the Hospital was naturally very seriously affected, but thanks to the willing co-operation of all the staff who were available, and of willing outside helpers—both Native and European—there was no obvious break in the Hospital routine. By June 5th the worst was over. The disease was of a mild type with practically no complications and a mortality rate of almost nil. During the height of the epidemic the Assistant Medical Officer and the Native Medical Practitioners paid visits to a number of houses of Natives and Indians in the vicinity, to treat the many cases that could not be accommodated in the Hospital.

(*c*) *Interesting cases.*—(*i*) *Lung abscess healed by postural drainage.*—A case was admitted at the beginning of the year of a lung abscess, approximately 3½ inches in diameter in the upper and posterior part of the right lung, in a male adult half-caste. Postural drainage was instituted preparatory to possible surgical drainage, but steady improvement being maintained, the former method of treatment was continued. By the beginning of March the lung had cleared completely and the patient was discharged well. He has been seen on several occasions since his return to work and he is still well.

(*ii*) *Myelogenous leukæmia.*—A male adult Indian was recently admitted with an enormous splenomegaly, the lower pole of the spleen being only 1½ inches above the pubes. Examination of the blood showed myelogenous leukæmia and a white cell count of 600,000 per cubic milimetre. This is only the second case of this disease that has been admitted to this Hospital in the last three years, the previous case being a European.

(*iii*) There has been admitted during the year a series of interesting cases of generalised lymphatic glandular enlargement. Besides the usual cases of tuberculous lymphadenitis, there have been three cases of Hodgkin's disease, one of fibrous tuberculosis simulating Hodgkin's disease, and one of lymphosarcoma. No relief has been possible for these cases, other than those of tuberculosis, owing to the fact that there is no deep X-Ray therapy plant at the Hospital. This is obviously a serious handicap in such an isolated community, and applies to other conditions than the above.

(iv) *Amœbiasis.*—There have been numerous cases during the year, admitted with the utmost diversity of symptoms—this is a characteristic of chronic amœbiasis—in whom the finding of amœbic cysts in the stool has lead to relief by their elimination. This series has illustrated well the inefficacy of injections of Emetine Hydrochloride in the treatment and prevention of this condition. A brief account of some of these cases has been submitted for publication in the *Native Medical Practitioner Journal.*

(*v*) The most interesting cases of the year to the writer, however, have been a series of cases of eclampsia and pre-eclamptic toxæmia which have, on the whole, been successfully treated by a method introduced to the Hospital early in the year by Dr. Lyle G. McNeile of Los Angeles, during his short stay in Suva. This method of treatment is based largely on the intravenous injection of a ten per cent. solution of Magnesium Sulphate in twenty cubic centimetre doses. Ten cases have been treated with two deaths (one case brought in extremis, and one a pre-eclamptic who did not respond to any treatment). It was not found necessary to perform any Cæsarean sections for eclampsia and Dr. McNeile's method seems a distinct advance on all others. Although it has been in use in America for many years no account of it has been seen by the writer in English works on obstetrics. A description of the method and of the cases has also been submitted for publication in the *Native Medical Practitioner* Journal.

(*f*) *X-Ray Department.*—The fixed plant is still functioning well and it was thoroughly overhauled at the beginning of December by an expert who visited the Colony from New Zealand for the special purpose of examining the X-Ray plants in Fiji. He is rendering reports on all X-Ray equipment.

The mobile plant was transferred to Tavua in October for use in a health survey that was carried out there by the Assistant Medical Officer and was returned at the middle of December. This plant, as already mentioned, is still not capable of use at the Hospital, though it was delivered towards the end of 1938, as the converter supplied with it is of the wrong type and no power points are available in the wards. Its impossibility of use in spite of its presence is an irritating handicap in a number of cases that cannot be transported to the X-Ray department for radiography. I attach a separate report on this department from the Radiologist.

(*g*) *Phsiotherapy.*—(*i*) *Radium.* The small supply of this material available has been in regular use throughout the year for treatment of the smaller superficial malignant diseases and new growths. The very small stock of ten milligrammes that was available at the beginning of the year was increased by thirty more. All is on loan from the Commonwealth of Australia. Two one miligramme needles were lost and not recovered in spite of a careful search, so that the balance remaining is thirty-eight milligrammes. No large tumours and no gynæcological cases can be treated with the available supply.

(*ii*) *Diathermy.*—The surgical diathermy machine has been employed regularly both for surgery by the cutting current and for coagulation of small new growths. The high frequency medical diathermy machine broke down early in the year and it seems impossible to repair it. However, as mentioned earlier in this report, owing to the generosity of Sir Maynard Hedstrom, the latest type of short wave medical diathermy machine is now in use at the Hospital. It is proving itself, and will be found in the future of the utmost value.

(*iii*) *Ultra-violet Radiation.*—A " Hanovia " mercury vapour lamp has been in use during the year for tonic treatment in surgical tuberculosis and for local action in skin diseases. This lamp is on loan from the Pathological Department by kind permission of the Pathologist, but it cannot be kept permanently. The results of its use have been excellent and prove the necessity for a similar lamp as part of the Hospital equipment.

(*iv*) *Massage and Manipulation.*—Only a few cases can be treated by massage at present as there is no masseur or masseuse on the staff. The massage that is given is carried out by medical students, and though of not the most skilful type, it has been of value in some cases. However, it cannot be employed in those cases that require skilled treatment.

A physiotherapy department is certainly one of the requirements of the Hospital. Details of the physiotherapeutic treatments given will be found in Appendix II.

(1) *Out-patients.*—(*i*) The attendances at the two departments available, European and non-European, are shown in the following table which gives also a comparison with 1938:—

	1938.	1939.
Europeans	1,233	1,186
Fijians	8,833	10,444
Indians	18,043	18,837
Others	2,034	1,967
	30,143	32,434

(*ii*) *Prescriptions dispensed for out-patients were*—

	1938.	1939.
Europeans	263	502
Fijians	2,431	3,251
Indians	9,654	10,649
Others	221	205
Total ..	12,569	14,607

The figures for the attendances by Indians and for the prescriptions dispensed for them continue high, since the remission, in December, 1937, of the fee payable by them and by other non-Fijians—the attendances of Indians totalled only 8,054 in a grand total of all races of 18,212 in 1937. The high figures of 1938 and of this year, however, are certain to be reduced in 1940 when the effect of the re-introduction of a fee—for any medicine or dressing taken for use off the premises by all non-Fijians—will be seen. This fee charge was to have been instituted on December 1st, 1939, but owing to accounting difficulties consequent on the lack of correct receipt books, its introduction had to be postponed to 1940.

The introduction of the new card indexed folder system of records in the European out-patient department has been mentioned. The same type of system would be of great advantage in the non-European department, but its smooth running could easily be upset in such a department where the people using it would be those who are unfamiliar with such methods.

(*i*) *Injections.*—The following injections have been given. N.A.B. 996; A.T.S. 259; Therapeutic sera; anti-dysenteric, 19; anti-streptococcal, 7; anti-diphtheritic, 5; anti-tetanic 14; anti-gasgangrene (prophylactic use), 11. The figure shown for injections of N.A.B. given includes also intramuscular injections of the special sulphur arsenical drugs which are used in children.

LABORATORY.

The Pathological Laboratory, which has been for some years now a separate unit in the Medical Department under the control of the Pathologist and no longer a department of the Hospital, continues to give invaluable assistance to the medical staff. The bulk of the work it does concerns the Hospital patients, and the extent of its assistance will be seen from the details given in the annual report of the Pathologist.

In conclusion I should like to express my thanks to the whole staff of the Hospital for willing work, sometimes under trying conditions as at the time of influenza epidemic, and for loyal co-operation throughout the year.

REPORT BY DR. A. G. HEMSLEY, ON X-RAY DEPARTMENT, COLONIAL WAR MEMORIAL HOSPITAL.

I have the honour to submit the following report on the X-Ray Department, Colonial War Memorial Hospital, for the year ending December 31st, 1939.

2. During the year under review, the Department was in the hands of Dr. Isaac for most of the last three months, and myself for the rest of the year.

3. The X-Ray plant has functioned satisfactorily throughout the whole period. The portable machine unfortunately, is still not able to be used in the Hospital owing to the fact that the wiring of the wards is not yet done. A new Inductotherm machine has recently been presented to the department by Sir Maynard Hedstrom for Medical Diathermy treatment. It appears to be doing excellent work.

4. During 1939, 1,377 patients were examined, and 1,499 films exposed. Details are shown in the following table of the types of examination—

Bones, joints and teeth	889
Chests	360
Barium meals and enemata	62
Abdominal viscera	77
Pyelograms	26
Cholecystograms	15
Bronchographies	3

The figures show an increase on those of 1938 by 280 patients, and 144 films exposed.

5. Miss McCormick acted as Radiographer, except during October and November, when she was relieved by Miss Lovell-Smith from New Zealand. Their services have been invaluable.

REPORT BY DR. LINDSAY ISAAC, ACTING PATHOLOGIST, ON THE WORK OF THE PATHOLOGY AND RESEARCH DIVISION.

The total number of examinations carried out during the year was 7,060, which represents an increase of 1,277 over the total of the previous year. This means that about 21 per cent. more investigations were done than in 1938, which is of course a notable augmentation in the amount of work and consequent service of the Laboratory to the community.

Teaching.—Postgraduate students of the Central Medical School were, as usual, stationed in the Laboratory for varying periods during the year. During their time in this division, they are given a thorough revision of the laboratory procedures that they would be able to do with the apparatus and facilities that are available to them in country districts. It is felt that the most valuable postgraduate training in laboratory work is one that is practical almost to the point of empiricism: but it ensures at least that no postgraduate leaves the laboratory without being able to identify any of the common parasites of fæces, and he can also stain and examine smears of pus and sputum, and can also do the Widal reaction.

In addition, the students of the school had the usual instruction in postmortem technique and morbid anatomy, in the routine examination of stools for parasitic infestations and in the staining and examination of smears of pus and sputum. The Pathologist gave a course of lectures in Forensic Medicine, and Mr. Pery-Johnston lectured in Bacteriology.

Medicolegal.—The Pathologist is also Police Surgeon, and deals with not only the routine forensic autopsies, but also miscellaneous exhibits sent from all districts of the Colony and the Western Pacific High Commission.

Other Investigations.—Dr. Isaac has continued to spend much time on the investigation of the problems of nutrition, and has been giving attention to the important preliminary task of establishing normal criteria for the stature, growth, and nutrition of Fijian children. He has made, in the course of the year, two visits to the island of Beqa for this purpose. These tours, being arranged to take place during the holidays of the Central Medical School, gave a welcome opportunity to take several senior students for a short field-course in village-inspection and child welfare work. Dr. Isaac was able, in June, to make an extended tour through the seldom-visited country of central Viti Levu, from Vunidawa to Nadarivatu and thence down the length of the Sigatoka Valley. Much valuable material was collected, as well as about 300 topographical photographs.

Summary Investigations.

Stools examined for (A and B) dysentery	1,554	
Positive Shiga	1	
Flexner	206	
Schmitz	1	
Sonne	1	
Ent. histolytica	70	
Balantidium coli	8	
Giardia lamblia	9	
Stools examined for typhoid and food-poisoning	161	
Positive B. typhosus	8	
Kahn tests performed	179	
Throat-swabs for K.L.B.	129	
Sputa for T.B.	404	
Agglutination tests	183	
Blood counts	186	
Blood cultures	25	
Biochemical examinations	245	
Occult blood	26	
Milks examined	136	
Waters	311	
Pus	52	
Puncture fluids	30	
Urines	314	
V.D. (other than Kahn)	264	
Histological examinations	60	
Grouping of blood	7	
Stools examined for parasites	1,570	
Positive Hookworm	26	per cent.
Trichuris	5·6	,,
Ascaris	3·1	,,
Oxyuris	0·9	,,
Trichostongylus	0·6	,,
Rats examined for P. Pestis	603	

Miscellaneous examinations not included in the above list (but including autopsies), 608; total all examinations 1939, 7,060; 1938, 5,783; increase during 1939, 1,277 (21 per cent.).

REPORT BY DR. T. CLUNIE ON THE CENTRAL MEDICAL SCHOOL, SUVA.

Participating Administrations.

Britain.—(*a*) All territories administered by the Governor of Fiji as Governor and High Commissioner of the Western Pacific, which include the Colonies of Fiji and the Gilbert and Ellice Islands; the British Solomon Islands Protectorate; the native Kingdom of Tonga, and the Condominium of the New Hebrides in which France is the other partner.

(*b*) All the tropical island territories which are administered by the Government of New Zealand, comprising the Cook Islands, Niue, the Mandated Territory of Western Samoa and the Tokelau Islands.

(*c*) The island of Nauru, which is administered under mandate by the Commonwealth Government of Australia.

U.S.A.—The United States of America is interested with respect to the Territory of Eastern Samoa where the Navy Department has established an efficient health service, and the introduction of the Native Medical Practitioner may only be experimental.

France.—The participation of France is limited to her interests in the New Hebrides Condominium.

Students in Residence.

Administration.	Junior school.	Intermediate year.	Final year.	Total.
Britain—				
Nauruans	1	1	.	2
Fijians	6	5	3	14
East Indians	1	.	.	1
Rotumans	.	1	.	1
Ellice Islanders	.	.	1	1
Gilbertese	1	2	.	3
Solomon Islanders	2	1	.	3
Tongans	1	2	1	4
Cook Islanders	2	.	1	3
Niue Islanders	.	.	.	Nil
Tokelau	.	.	.	Nil
Samoans	2	2	2	6
Condominium.—				
*New Hebrideans (Great Britain and France)	.	.	.	Nil
U.S.A.—				
Samoans	1	.	1	2
	17	14	9	40

* Two at Queen Victoria School, Fiji, preparing for entrance in 1940.

POST-GRADUATES IN RESIDENCE.

Administration.	Course.	Total.
Tongan	20th Jan.–24th June	.
Tongan	29th Aug.–31st Dec. (still in residence)	2
Fijian	1938–30th March, 1939	.
Fijian	27th Aug.–15th Dec.	2
		4

POST-GRADUATE COURSE IN PATHOLOGICAL AND RESEARCH DIVISION.

Three Fijian Native Medical Practitioners were attached to the Laboratory for special work and study.

ACCOMMODATION FOR POST-GRADUATES.

Three modern concrete cottages have been built within the hospital compound for rent-free use of post-graduates and their wives and families. This eliminates the handicap previously placed on married Native Medical Practitioners who wished to take post-graduate courses, but found difficulty in securing family accommodation in Suva.

Native gardens for the cultivation of native food crops adjoin these cottages.

STUDENTS' HOSTEL.

The majority of the students are accommodated in the Central hostel, a two-storeyed building adjoining the school and hospital. This hostel accommodates 28 students, and a kitchen and a laundry are incorporated.

The old Fijian quarters, which is some distance from the school and hospital, accommodates 12 students.

The hostel laundry was abolished in December of this year and all laundry work is now done at the new laundry of the Colonial War Memorial Hospital.

During the early part of December the students occupying the old Fijian quarters were transferred to a cottage near the school, and to the Central hostel to ensure more adequate supervision.

Another cottage near the school will be taken over during January, 1940, to accommodate students entering the school during that month.

This arrangement is a temporary one, pending the construction of a new concrete hostel in 1940, which will accommodate over 50 students, and incorporated in which will be a recreation room, modern sanitary blocks, dining hall, kitchen, &c.

COURSE OF STUDIES.

The Fiji Medical School arose from emergency measures adopted by an early Chief Medical Officer of the Colony to guard against the introduction of small-pox. Fiji had learnt a bitter lesson in 1875 when measles swept through the group like a devouring flame. Dr. Bolton Granvill Corney determined that small-pox, if introduced by East Indian immigration, would not reap a similar toll. European lay vaccinators were tried, but were not invariably successful. Fijian youths were trained as vaccinators, and were introduced into dispensaries and such hospitals as existed as dressers. From this it was but a step to more advanced training of these youths as dispensers and medical assistants. A three-year course was instituted, and the first Native Medical Practitioner certificate was signed by the Chief Medical Officer on the 12th November, 1888. This system of practical training in hospitals, wherein the lectures were largely clinical at the bedside, and practical knowledge was gained in the wards, in the dispensary, and in the post mortem room, was continued, and was particularly successful in the old Colonial Hospital, Suva.

With the opening of the Colonial War Memorial Hospital the teaching was extended. It was not, however, until the construction of a Medical School in 1928, with financial assistance from the Rockefeller Foundation, that a full-time medical tutor was appointed, and modern facilities were available for the teaching of the students. The scope of the school was greatly extended following the introduction of the idea of centralisation of medical effort in the Pacific and the new School was named the Central Medical School, as its students were drawn from most of the Administrations of the South Pacific. The three-year course was extended in 1931 to four years, and Chemistry and Physics, and later Biology, were added to the curriculum. This four-year course consists of a Junior School period of 18 months. The first six months of Junior school is devoted to the teaching of Physics, Chemistry and Biology, and the next twelve months to Anatomy and Physiology. Senior school students attend the hospital acting as dressers and male nurses, and obtaining practical experience in wards, theatres, dispensary, Pathological Division, Child Welfare and Obstetric units, &c. Practical experience in Public Health and Infant Welfare work is gained under the supervision of the Medical Officer of Health, Suva, and Medical Officers interested in child welfare work, and the Nursing Superintendent.

HEALTH.

Improvements in diet during recent years, insistance on the importance of athletics in health maintenance, and general supervision, have lead to an average standard of health in the school. The abolition of night duty by students has also been beneficial. The medical officer in charge of the hospital refers to health in the attached Appendix.

CLINICAL INSTRUCTION.

This is largely under the direction of the medical officer in charge of the Colonial War Memorial Hospital. We have been fortunate during 1939 in that Dr. E. V. Maxwell is Medical Officer in charge of the hospital and has shown great interest in the teaching of students.

Dr. Maxwell's report on clinical instruction is appended.

POST-GRADUATE COURSE.

Native Medical Practitioners are selected by the Director to attend post graduate courses at the Colonial War Memorial Hospital, with a view to maintaining a high standard in their work and being made conversant with advances in medicine and surgery. This course includes attendance at lectures and demonstrations, and duty as house physicians and house surgeons under the direction of hospital medical officers. The course extends over six months. Attendance at the Pathological and Research Division is also insisted on, and selected Native Medical Practitioners are detailed for special routine work in this department. Four post-graduate students, on an average, attend the hospital annually, and only those practitioners who are likely to benefit from such a course are selected. A certificate is issued by the Director to those post-graduate students, who, on the recommendation of the Medical Officer in charge of the Hospital and the Principal, appear worthy of it.

DISCIPLINE.

The discipline has been of a high order, with the exception of serious breaches by four Fijian students, whose studentships were terminated.

SPORT.

Rugby Football.—The Rugby football team had a very successful season. The first XV played in the final of the knockout Competition, and was also runner up in the Challenge Shield Competition. The captain of the Rugby team played in the representative Fiji side against the Maori "All Blacks." The team held second place in the Rugby Union of the Colony, the leading team having the advantage by only one point.

Cricket.—The team opened strongly, and towards the close of the year was doing very well. I was personally very favourably impressed each Saturday afternoon when watching their games on the Albert Park ground, Suva. The students owe much to the interest shown by Mr. P. A. Snow, of the Colonial Administrative Service. A review of the team will appear in the March, 1940, issue of the *Native Medical Practitioner Journal.* The team holds the 1938–39 Sir Walter Carpenter Shield, which also carries with it a trophy donated by Major C. A. Brewster, O.B.E., M.C.

Tennis.—This is too expensive a game for students, but several have taken advantage of the kindness of Mr. H. H. Vaskess, O.B.E., Secretary to the Western Pacific High Commission, who placed his tennis court at their disposal. During wet weather, great interest is shown by the students in ping-pong, which is played on a table in the Library of the School.

Playing Field.—All matches are played on public recreation grounds. St. Luke's Park, which was generously donated by Dr. I. H. Beattie, Suva, and made into a football field by the Public Works Department, is used as a practice ground, but is too small for a cricket or match football ground.

The services of Mr. A. S. Martin, Steward and Clerk of the Colonial War Memorial Hospital, as honorary treasurer of the Sports Club, were greatly appreciated.

STUDENTS' COUNCIL.

I advocated the formation of a Students' Council in 1929, but it was not until 1934 that the Council was instituted with the co-operation of Dr. D. C. M. Macpherson. We felt that the Council might assist the Principal and the Medical Officers of the Hospital in the maintenance of a high standard of conduct, investigate breaches of discipline, and generally advise the Principal in the interests of the school. Members are elected from the students of each Administration, and it is felt that the Council will, in time, play an important part in the welfare of the students, as it is modelled on the principle in evidence at Universities. The Council appears to have lapsed for some years, but was reconstituted in July of this year. A Cook Island student was elected President, a Fijian vice-president, and an American-Samoan Secretary. The following is from the Secretary's report—" Subjects discussed were,—Lighting, food utensils, dining conditions, behaviour, leave, hospital duties, Indian student rations. For full particulars refer to the Minutes of the Council.

There has been marked improvement shown in the school since the re-opening of the Council. The Council will carry on with more improvement in the future."

FACULTY.

A Committee of Lecturers, was re-constituted during November, after a lapse of some years. Subjects considered were:—the curriculum, practical teaching in Obstetrics, practical instruction in Infant Welfare, training in Public Health, Hospital Dispensary and the teaching of Materia Medica and Practical Pharmacy, quarterly reports of work and conduct of students during their hospital course, report key and examiners guide, text books, post-graduate courses and regulations, revised regulations, course in Dentistry, the Oath of Hippocrates and the Graduation Ceremony.

It is felt that the Faculty will be of great assistance in co-ordinating both theoretical and practical training of students and post-graduates, and in keeping members of the teaching staff in more direct contact with students and with each other, in assisting the Principal and the Medical Officers of the Hospital in maintaining discipline and in weeding out unsatisfactory students before they have gone so far in their career as to be a financial loss to their Administrations and a disappointment to their people and to themselves.

DENTISTRY.

His Excellency the Governor, Sir Harry Luke, K.C.M.G., has shown great interest in the School and has, in particular, stimulated interest in the teaching of dentistry and the relation of diet to teeth. An attempt has been made to co-ordinate teaching, and recommendations have been made to the Director of Medical Services. The ideal is a dental school clinic under the direction of the Medical Officer of Health, and a hospital clinic attached to the Health Centre under the direction of Hospital authorities.

The services of Dr. L. B. Hart and Mr. H. S. Mount as honorary lecturers and demonstrators are greatly appreciated. Mr. Mount is publishing an article on diet in relation to teeth in March, 1940, issue of the *Native Medical Practitioner Journal.*

LECTURERS.

Chemistry, Physics and Biology	D. W. Hoodless, L.M.S.S.A., B.Sc. (Lond.).
Anatomy, Physiology, Applied Anatomy and History of Medicine	T. Clunie, M.B., Ch.B., D.T.M.
Surgery and Anæsthetics	E. V. Maxwell, M.B., Ch.B.
Obstetrics	V. W. T. McGusty, O.B.E., B.A., M.B., B.Ch., D.T.M.
Medicine	W. L. Isaac, M.R.C.S. (Eng.), L.R.C.P.(Lond.). A. G. Hemsley, M.R.C.S. (Eng.), L.R.C.P. (Lond.).
Pathology and forensic Medicine	D. C. M. Macpherson, M.B., Ch.B., D.T.M., M.P.H.
Bacteriology	J. E. Pery-Johnston, Dip. Bact.
Materia Medica and Practical Pharmacy	A. J. Burke, M.P.S., Ph.C. Vilikesa Ramaqa, N.M.P.
Diseases of the Eye	F. Claffy, M.B., B.S.
Dentistry	Dr. L. B. Hart.
Diet in relation to Teeth	Mr. H. S. Mount.
Public Health	S. M. Lambert, M.D., of the Rockefeller Foundation. G. R. Baxter, M.D. (Dunelm), B.Ch.D., M.B.Ch.B., D.P.H., D.T.M. & H.
Diseases of children	W. M. Ramsay, L.R.C.P. and S., Edin., L.F.P.S. Glasgow.
Hospital Accountancy	A. S. Martin.

EXAMINATIONS.

The examiner is the lecturer in the subject, the co-examiner is selected by the Director. This ensures that students are examined in theoretical and practical work actually done, while an independent opinion can be formed of the standard attained.

Assessors attend final examinations. The Assessors this year were Drs. V. W. T. McGusty, O.B.E., H. S. Evans, and T. Clunie.

ADMINISTRATION.

The Governor of Fiji and High Commissioner for the Western Pacific is the supreme authority in the administration of the School, and he is assisted by an Advisory Board consisting of the Representative of the Rockefeller Foundation, the Secretary of the Western Pacific High Commission, the Medical Officer in Charge of the Colonial War Memorial Hospital, and the Director of Medical Services, who is *ex officio* Chairman.

Three meetings of the Board were held during the year.

The heterogenous origins of the students cause no administrative difficulties of any consequence, and in the maintenance of discipline and the welfare of the students, the Principal is loyally assisted by Prefects and by the Students' Council. A system of nomination and election of Prefects was introduced this year which, while maintaining adequate control by the Principal, gives the students' a voice in the management of their affairs. This system, the students' Council, sporting activities, and the tradition of the School and Native Medical Practitioner Service maintain a fine *esprit de corps* which in perpetuated in the lives of graduates.

Dr. S. M. Lambert, of the Rockefeller Foundation, whose personality and wide influence in the Pacific did so much to bring the Central Medical School into being, and who took an active part in the life of the School, left the Colony this year on retirement. In his departure the School has lost a sincere and influential friend. His photograph, and that of the late John D. Rockefeller, in the Library of the School, will help to perpetuate the memory of all that has been done for this Colony and the Western Pacific by the Rockefeller Foundation.

PRESERVATION OF NATIVE CHARACTER.

The aim of the School is to fit its graduates for the normal responsibilities of medical practitioners and health officers without removing them from their environment. The success of the Native practitioner service depends on its conforming with Native society, and its maintenance at an economic level within the capacity of each administration having an interest in the School.

The essentially native character of the service is stressed as much as possible in the living conditions of the students, who are encouraged to dress themselves after the manner of well-bred natives, and to retain all of their native manner of living that is possible under the conditions of studentship. This ensures, as far as it is possible to do so, that graduates return to their homes with a wholesome respect for the customs and manners of their own people and take their place with dignity and ease in the native social system, whence they can most readily spread the knowledge they have acquired.

Any raising of the status of the school diploma towards a European level would defeat the objects of the school by removing them from their place in their native social environment. On the other hand it has been long felt that service as a Native Medical Practitioner should carry with it the traditions and ideals of the profession of medicine, and D. W. Hoodless and D. C M. Macpherson, among others have advocated administration of the Oath of Hippocrates on graduation.

The Indian Medical Practitioner.—The success of the Native Medical Practitioner service led to the introduction of the Indian Medical Practitioner, and the first of these received his diploma from the Fiji Medical School in 1925. The graduation of Indians, has, however, been limited in number to the staffing of hospitals and dispensaries and to certain travelling health appointments in Suva and the larger sugar centres of the Colony, as the individualistic Indian cannot be absorbed as is the communally-living Fijian. Thus there are to-day 65 Native Medical Practitioners in Fiji which has a native population of 99,595 Fijians and 1,567 Polynesians, while there are but eight Indian Medical Practitioners in the Colony which has an East Indian population of 89,333.

The service of Indian Medical Practitioners is of undoubted value, however, and one Indian at least will be admitted to the Central Medical School yearly for the next four years, while later admissions will be continued as required.

Co-operation between Fijian and Indian Practitioners is manifest in many parts of the Colony and they operate loyally as one service.

GRADUATION CEREMONY.

The Graduation Ceremony held in the Legislative Council Chamber, Suva, on December 11th, eclipsed in dignity and impressiveness all previous ceremonies. This was due to the official and great personal interest shown by His Excellency Sir Harry Luke, K.C.M.G., who presided.

Interest taken in the Ceremony by representatives from other centres of learning was indicated by the appearance of robes of Universities of several parts of the Empire.

His Excellency's address is to be published in the March, 1940, issue of the *Native Medical Practitioner Journal*, which will also contain impressions of the ceremony by a Fijian Native Medical Student.

MEDALS.

In his Graduation address His Excellency commended the public spirit of the donors of medals. Since the opening of the Central Medical School several medals have been donated. Several, such as those donated by Colonel Allen, once Administrator of British Samoa, and by Dr. Eric Hunt, once Chief Medical Officer of the same Administration, have lapsed, but the following are presented yearly when medal standard is attained in examinations:—

Gold Medal.	Donor.	First donated.	Endowed.	1939 award.
In Anatomy	Sir Henry Milne Scott ..	1929	1930	Not awarded as no qualifying class, owing to a period of transition.
Public Health	Sir Maynard Hedstrom ..	1929	1930	Eveni Levi of American Samoa.
Medicine	Hon. Alport Barker . ..	1929	....	Aisake Niumataiwalu of Fiji.
Surgery	British Medical Association (Fiji).	1935	....	James Rennie of Cook Islands.
Obstetrics and Child Welfare ..	Dr. A. H. B. Pearce . ..	1935	....	Samuela Taumeobeau of Tonga, and James Rennie of Cook Is.
Ielu Kuresa Memorial medal for all round proficiency but with particular reference to Diseases of Children.	Samoan people to a Fijian student in memory of the late Ielu Kuresa, N.M.P. of Samoa.	1937	....	Aisake Niumataiwalu of Fiji.

SPECIAL PRIZES.

(*a*) His Excellency the Governor's prize in Practical Medicine and Surgery, awarded to Aisake Niumataiwalu (Fiji).

(*b*) Bishop Nicholas, C.B.E., Prize for best Fijian student, awarded to Aisake Niumataiwalu (Fiji).

(*c*) Pacific Island Club's prize, awarded to James Rennie (Cook Islands) as the most proficient student in the final year, combined with a high standard in athletics.

CLASS PRIZES, JUNIOR SCHOOL.

Chemistry	David Ganga Ram (Indian, Fiji). Fakavaiga Taumoebeau (Tonga).
Physics	Taione Sikivou (Fiji).
Biology	Manea Tamarua (Cook Islands).
Anatomy	David Ganga Ram (Indian, Fiji)
Special Senses	Jale W. Masi (Fiji).
Physiology	Ngoeikura Tou (Cook Islands).

INTERMEDIATE SCHOOL.

Materia Medica . ..	Aseri K. Manulevu (Fiji).
Bacteriology	Ropati B. Cula (Fiji).
Anæsthetics	Siaosi Tuioti (W. Samoa).
Surgery	Siaosi Tuioti (W. Samoa).
Medicine	Uliame F. Tufui (Tonga).

FINAL YEAR.

Obstetrics	James Rennie (Cook Islands).
Diseases of Children	Samiuela Taumœbeau (Tonga).
Public Health	Eveni Levi (E. Samoa).
Surgery	James Rennie (Cook Islands).
Medicine	Aisake Niu (Fiji).
Forensic Medicine	Sale Ieremia (W. Samoa). Amosa Sio (W. Samoa).

THE CILENTO MEDAL.

The Cilento Medal for 1937 was presented by His Excellency at the Graduation Ceremony, to Sakenasa Rakaria, senior N.M.P., representing the Native Medical Practitioner Service of Fiji, for custody in the Central Medical School.

THE NATIVE MECICAL PRACTITIONER JOURNAL.

The Journal of the School and Service, previously edited by its originator, an officer of the Colonial Medical Service, has for some years past been edited by a Committee appointed by the Director. No. 1 of Vol. 3 was published in March this year following a lapse of two years. The next number is now in the printer's hands. It is an issue of exceptional interest as it contains a Foreword by His Excellency the Governor, Sir Harry Luke, K.C.M.G., who has taken such great interest in the School, an account of the Graduation Ceremony by a Fijian student, His Excellency's address, an account of the Cilento Medal award to the Native Medical Practitioner Service, the success of a Child Welfare Nurse in the Empire Baby Week Campaign, a sport review, articles on amœbiasis, child welfare, leprosy, diet in relation to teeth, surgical and medical subjects, and interesting articles on native diets, midwifery, &c., by Native Medical Practitioners stationed in such widely separated areas as Fiji, Rotuma, Samoa, and the New Hebrides.

The care and interest of Mr. H. R. Craigie, the Government Printer, and his staff, in our Journal contribute much to its success.

SCHOOL ACTIVITIES.

School activities, apart from the training of students and post-graduates included lectures, to probationers of the Nursing school under the direction of Miss L. M. Lea, Nursing Superintendent, by the hospital medical officers and myself; lectures on First Aid to European and Indian residents, lectures to the Life Saving Society by myself; British Medical Association lectures by Dr. Hardie Neil of Auckland, Professor McNeile of the United States of America, Dr. E. V. Maxwell of the Colonial Medical Service, Mr. W. J. Blackie, M.Sc., F.I.C., Senior Government Chemist.

Students and Native Medical Practitioners attended the British Medical Association lectures by invitation. The services of Mr Pery-Johnston, of the Laboratory and Research Division, in photography, the working of cinematographic apparatus during lectures, the demonstration of pathological and bacteriological specimens, &c., were greatly appreciated.

Lecturers on First Aid outwith the school were allowed the use of diagrams and models from the school. Examinations in First Aid took place at the school. Every effort is made by the school to encourage clinical and scientific interests.

STRETCHER-BEARERS.

Four sections of junior students were trained as stretcher-bearers as a nucleus for such training for military units, and for use in case of emergency. Medical students accompanied me on visits to camps to gain experience in the care of troops under service conditions.

LIBRARY.

A gift of used books was received from the Rockefeller Foundation. Dr. Weston Price donated an autographed copy of his work on Nutrition. This is of particular interest as Dr. Price twice visited us and he has something to say about nutrition in the islands of the Pacific.

WIRELESS SET.

A wireless set was installed in the central hostel during December. This gift to the students from the various Administrations represented at the School is greatly appreciated, especially during inclement weather.

VISITORS.

Among the visitors from abroad were the Governor of American Samoa, the Chief Medical Officer of American Samoa, Dr. Millikan of California, the well-known physicist and Nobel Prize winner, Professor Dawson of Otago University, Professor Sunderland of Melbourne University, our old friend Dr. Hardie Neil of Auckland, Dr. Graham Brown, Dr. Lee of Brisbane, Mr. Marchant, Administrator of the Solomon Islands, Mr. Heminger, Superintendent of Education, Samoa, and the following Samoan chiefs:—Leiato, Taiutafa and Tuisosoqo.

An address by Professor Dawson appears in the March, 1940, issue of the *Native Medical Practitioner.*

APPRECIATION.

No report would be complete without an expression of appreciation of the encouragement and interest of Dr. V. W. T. McGusty, O.B.E., who as Director of Medical Services is also Director of the School, and of Dr. H. S. Evans, who represented Dr. McGusty during the latter's official tour of the Gilbert and Ellice Islands in November and December.

The interest stimulated by Dr. W. L. Isaac in Child Welfare, a most important subject to Native Medical Practitioners, should reap a rich harvest.

The loyal co-operation of the members of Faculty, of lecturers and demonstrators, the Nursing Superintendent and Staff ,the Students' Council, and of the students themselves, has done much towards the successful completion of an interesting year.

REPORT BY Dr. E. V. MAXWELL ON CLINICAL STUDIES.

All third- and fourth-year students have been given instruction in practical work in all the departments of the Hospital during the year. By a series of duty rosters it was arranged that each student received the following periods of instruction:—In male Surgical ward 3 months, European and Middle Wards 4 weeks, in Women's Ward 2 weeks, all under the supervision of the Medical Officer in Charge; in male Medical Ward 3 months, out-patients department 2 months, ophthalmic department 2 weeks, all under supervision of the Assistant Medical Officer; in the Dispensary 6 weeks, receiving tuition from the Dispenser; and in the operating theatre 2 months; in this case the fourth-year students had prior claim and the third-year students commenced their training in theatre technique by the Theatre Sister in November. The fourth-year students have also, since the close of the course of lectures in the corresponding subjects, been required to give anæsthetics under supervision, and to attend and conduct deliveries in the Obstetric Ward. The majority of the fourth-year students, just prior to qualification, were allowed to perform an operation, either simple herniotomy or a radical cure of hydrocele, under the supervision, and with the assistance, of the Medical Officer in Charge.

Thus all students have received an all round training in ward work, clinical methods, dispensing and practical procedure of many kinds.

Ward Work.—Each student attached to a ward, with the exception of the European and Middle Wards, was allotted cases in rotation. To these patients they acted as clinical clerk, dresser, and male nurse. They were thus taught routine nursing care and the technique of dressings by the ward Sister, and by following through each case, and acting as assistant to the surgeon if an operation was performed, they were trained in clinical methods and in treatment by the Medical Staff.

Some difficulty was experienced in arranging regular clinics in the wards, as the very limited medical staff has had a busy year, and so, latterly, special clinical lectures had to be arranged on certain afternoons. During the Medical Officers' rounds all students were required to attend in the wards in which they were for the time being working, and were at liberty to attend the rounds in the other wards. At these rounds clinical and other forms of instruction were given.

Obstetrics and Children's Diseases.—As already stated, the fourth-year students were taught practical obstetrics at the close of the regular course of lectures on this subject. A short, though very instructive, series of lectures was given in obstetrics, one illustrated by a cinematograph film, by Dr. Lyle G. McNeile, of Los Angeles, during his short visit to Suva early in the year. Their practical training was carried out by the Ward Sister, who also instructed them when they attended the antenatal clinic. The students in question did not show any keenness for this work, and, through the omission of a roster, the number of cases attended was not as good as it could have been. It is proposed to tighten up control in this direction in 1940. The question of attention at, and conduction of, deliveries is an important one, but as the Hospital also trains Native Obstetric Nurses, the number of cases available for conduction by the students is not large. There have been a number of changes in the Obstetric Ward Staff during the year, which has caused some falling off in antenatal clinic patients' attendances, and the lack of a properly equipped labour theatre is a great handicap in teaching.

The new Children's Ward was occupied in May, and since then the student attached to the European and Middle Wards, has attended rounds there for instruction in children's diseases and in child welfare.

Dispensing.—While serving in the dispensary students received practical instruction in Pharmacy from the Dispenser, N.M.P. Vilikesa Ramaqa, who was also lecturer in Materia Medica. For a short time a European pharmacist was attached to the Dispensary and it was noted then that practical training improved. No reflection is cast on the teaching of N.M.P. Vilikesa Ramaqa, who has done very good work in this direction, when it is stated that it is felt that he has too many calls on his time to be able to give adequate regular teaching in practical pharmacy—he is relieving anæsthetist, gives the weekly N.A.B. injections (in which he trains the students also), and is liable to be called on frequently to perform minor operations and other tasks. It seems very evident that, for greater dispensary efficiency and for better training of the students, a European pharmacist should be appointed permanently to the Hospital staff.

Ophthalmology.—Early in the year a short visit to Suva was paid by an Ophthalmologist of Sydney, Dr. F. Claffy, who very kindly delivered some lectures in his subject. This was very fortunate for the students as, since the death of Dr. C. H. B. Thompson in 1937, there has been no specialist in this subject in Fiji to give training in it.

Public Health and Hygiene.—During the year a number of students received practical training in these subjects in the field by accompanying Dr. W. L. Isaac on several of his tours.

Pathology.—Those students attached to the Medical Ward also served as post-mortem room assistants to the Pathologist. In this way they were taught the technique of post-mortem examination, gross pathology, and the method of keeping post-mortem records. They were also able to revise a good deal of anatomy. Students also received instruction in laboratoty methods from the Laboratory Technician.

Conduct.—The conduct of the students was on the whole very good, but unfortunately towards the close of the year it was found necessary to recommend four students for dismissal for repeated serious misconduct.

Health.—In May the majority of students were affected, along with the rest of the Hospital staff, in the widespread epidemic of influenza which broke out then. However, none was seriously ill and all were soon on duty once again.

One Tongan student, returned after being sent away for treatment for pulmonary tuberculosis in his home country, was found on arrival still to have active disease. It is pleasing to record that, after spending nine months as an in-patient, he was discharged healed in the middle of December, ready to resume his course in 1940.

There were several admissions of other students, but in no case for serious illness.

The general health is good and is likely to be better when the proposed new hostel is built, and when the proposed increase in the ration of fruit and vegetables, included in the draft of revised Hospital Regulations, comes into force.

Post-Graduates.—The following completed a six-months' course of post-graduate training during the year and received their certificates:—N.M.P. Josaia (Fiji) on 30th March, N.M.P. Fanua (Tonga) on 22nd June, and N.M.P. David (Tonga) on 11th December. During this course the N.M.Ps. are attached, for two months in each department, to the Dispensary, Out-patient Department and to the Laboratory. They also attend clinics, lectures and ward rounds, and also perform certain operations and administer anæsthetics.

While attached to the out-patient department they pay a weekly visit to, and report on the conditions in, the Native villages near Suva.

In conclusion I would like to record the appreciation of the Medical and Nursing staff of the work done by the students in the Hospital. Their valuable work, perhaps apt to be taken for granted, was clearly brought to notice during the influenza epidemic mentioned above, when the depleted Hospital staff greatly missed their services.

The Medical Staff is also grateful for the willing services of the post-graduates, who are a valuable augmentation of the not large permanent Hospital Native Medical Practitioner staff.

Thanks are due to the Matron and Nursing Staff for the great interest they take in their share of the students' training.

REPORT BY Dr. C. J. AUSTIN, MEDICAL SUPERINTENDENT, MAKOGAI.

I have the honour to forward the report of the Central Leper Hospital, Makogai, for the year 1939.

Nursing staff.—The Reverend Mother Agnes, M.B.E., was on leave from 1st February to 14th September, Sister Mary Zita taking her place as Head Sister at Makogai during that period. It is impossible to pay adequate tribute to the work of the Nursing Sisters. The self sacrificing devotion which enables them to face and carry out any task, however unpleasant, in a spirit of cheerful optimism, has an even greater effect upon the patients than the execution of the tasks themselves. The contented and hopeful air of the patients, so continually commented on by visitors is but a reflection of the spirit shown them by the Sisters.

Historical.—By " The Lepers Ordinance 1899 "—the earliest legal enactment in Fiji regarding leprosy—certain callings were forbidden to lepers and the Governor was given power to establish leper asylums and to consign thereto any leper in the gaol or lunatic asylum or any leper guilty of an offence against the Ordinance.

Shortly afterwards a leprosy asylum was established on the island of Beqa off the south coast of Viti Levu, where a very limited number of cases were segregated. The Government, however, soon decided that in the interests of the patients and the general public alike it would be advisable to have an island entirely devoted to leprosy work, and Makogai was purchased for the purpose in 1909. Two years later forty patients, of whom thirty-six were voluntary admissions, were transferred from Beqa.

In 1925, by arrangement with the Governments of New Zealand and Tonga, patients were admitted from New Zealand and its dependencies and from Tonga, and Makogai became the " Central Leper Hospital " for the Southern Pacific. A further extension occurred in 1935 by the admission of patients from the Gilbert Islands.

The steady growth in numbers is shown in the following list, which gives the number of inmates at the end of each year:—

Year.	No.	Year.	No.
1911	40	1926	302
1912	154	1927	438
1913	177	1928	409
1914	279	1929	442
1915	249	1930	433
1916	287	1931	494
1917	314	1932	476
1918	327	1933	427
1919	352	1934	466
1920	243	1935	575
1921	216	1936	555
1922	266	1937	577
1923	289	1938	619
1924	272	1939	632
1925	297		

Since 1911 a total of 2,269 cases (or suspected cases) of leprosy have been admitted to Makogai. The following table is a progress record regarding 1,777 cases available for study after excluding those repatriated to India at their own request, those unconditionally discharged as non-lepers, and those admitted during the latter half of 1939.

TABLE I.—PROGRESS TABLE 1911–1939.

	No. of cases.	Dis-charged.	In-active.	Im-proved.	Sta-tionary.	Worse.	Died.	Percentages (*a*)	
								Dis-charged.	Improved (*b*)
Fijian	619	198	58	30	27	4	302	31·9	46·2
Indian	505	110	86	62	49	12	186	21·8	51·1
Solomon Islander ..	187	49	18	9	11	3	97	26·2	40·6
Cook Islander	160	42	40	9	17	6	46	26·2	56·8
Rotuman	81	28	15	5	7	2	24	(34·5)	(59·2)
Gilbert Islander	77	3	20	21	14	7	12	(3·9)	(57·1)
Samoan	48	11	5	8	6	....	18	(22·9)	(50·0)
Tongan	22	3	4	6	2	....	7	(13·6)	(59·1)
Chinese	22	3	....	3	3	1	12	(13·6)	(27·2)
Niue Islander	8	1	1	4	....	....	2	(12·5)	(75·0)
Maori	4	1	....	....	....	....	3	(25·0)	(25·0)
P.E.N.D.	27	7	2	6	1	1	10	(25·9)	(55·5)
European	17	4	1	2	....	....	10	(23·5)	(41·2)
Male	1,285	338	158	120	97	27	545	26·3	47·9
Female	492	122	92	45	40	9	184	24·7	52·6
Totals ..	1,777	460	250	165	137	36	729	25·9	49·3

(*a*) Bracketing indicates involvement of less than 100 cases. (*b*) Includes the " discharged," " inactive " and " improved."

" *Follow-up* " *of discharges*.—Of the four hundred and sixty discharged cases, sixty-six belonged to outside administrations, leaving three hundred and ninety-four discharged in Fiji. Sixty of these Fiji cases have been re-admitted (13· per cent.) for reactivation of their disease, thirteen being later re-discharged. Seventy-eight cases have died and five have been repatriated to India. Of the remaining two hundred and sixty-four, fifty-two have failed to report during the past two years, but it is hoped that an improved system of notification now suggested will considerably reduce this figure. Two hundred and twelve cases more or less regularly reported on have remained free from active signs.

Statistics.—The Table of Statistics shows the number of inmates to have decreased by twelve during the year. There were no admissions from outside the Colony, and all but one of the discharges were domiciled in Fiji. The daily average number of patients for the year was 615·92.

TABLE II.—STATISTICS.

	European.	P.E.N.D.		Solomon Is.		Fijian.		Indian.		Rotuman.		Chinese.	Samoan.		Maori.	Niue Is.		Cook Is.		Tongan.		Gilbert Is.		Total.
	M	M	F	M	F	M	F	M	F	M	F	M	M	F	M	M	F	M	F	M	F	M	F	M F
In the hospital 1/1/39.. ..	3	7	3	35	8	81	43	170	50	20	10	7	14	6	1	2	3	43	36	5	9	45	18	433+186=619
Admissions	.	..	.	2	·	15	13	14	6	..	.	.	..	.	.	..	.	..	.	..	.	..	.	31+ 19= 50
Deaths	.	..	.	4	.	9	5	14	.	1	.	.	1	.	1	..	.	5	1	1	1	1	.	37+ 7= 44
Unconditional discharge ..	.	..	.	..	.	..	1	..	.	..	.	.	..	.	.	..	.	..	.	..	.	..	.	1= 1
Conditional discharges . ..	.	..	.	1	1	3	2	5	2	1	1	.	..	.	.	..	.	1	.	..	.	..	.	11+ 6= 17
Total inmates in hospital 31st December, 1939	3	7	3	32	7	84	48	165	54	18	9	7	13	6	0	2	3	37	35	4	8	44	18	416+191=607
Totals ..	3	10		39		132		219		27		7	19		0	5		72		12		62		607

TABLE III.—RACE IN RELATION TO TYPE.

1939.	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Fijian	8	5	32	25	2	3	4	..	37	15	2	..	85	48	133
Indian	7	1	43	16	..	3	15	4	100	27	6	1	171	52	223
Solomon Islanders ..	6	1	13	4	..	..	1	1	17	2	..	..	37	8	45
Rotuman	4	6	6	2	1	..	..	..	9	2	..	..	20	10	30
Cook Islanders ..	22	17	6	7	..	1	2	..	10	7	2	4	42	36	78
Gilbert Islanders ..	8	4	7	4	1	..	3	..	19	6	7	4	45	18	63
Samoan	1	..	5	2	..	..	..	..	7	4	1	..	14	6	20
Tongan	..	..	1	2	1	1	..	1	3	4	..	1	5	9	14
Niue Islanders ..	..	2	..	..	..	..	..	..	2	1	..	..	2	3	5
Maori..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Chinese	..	..	1	..	..	..	..	..	6	..	..	..	7	..	7
P.E.N.D.	1	1	1	1	..	..	..	..	5	1	..	..	7	3	10
European	..	..	..	..	..	..	..	..	3	..	..	..	3	..	3
	57	37	115	63	6	8	25	6	218	69	18	10	439	193	632
Total ..	94		178		14		31		287		28		632		

Admissions.—After reviewing previous years it is evident that the number of admissions each year shows little sign of diminution, but there is no question that cases are now being admitted at earlier stages of the disease. The position is still far from satisfactory with eleven moderately advanced and one very advanced Lepromatous case included among the admissions, but even these were in very much better general condition than they would have been a few years ago. The thirty-four early and moderate Neural cases, moreover, hold out good hopes of increasing discharges in the future.

TABLE II.—ADMISSIONS ACCORDING TO RACE AND TYPE.

1939.	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Fijians.	3	3	8	5	..	..	1	..	3	3	..	1	15	12	27*
Indians	3	..	7	3	..	..	2	..	2	3	..	..	14	6	20
Solomon Islanders	1	..	1	..	..	..	..	..	..	..	..	..	2	..	2
	7	3	16	8	..	..	3	..	5	6	..	1	31	18	49*
Totals	10		24		..		3		11		1		49		

* Omitting one case re-discharged as a non-leper.

Discharges.—Only seventeen cases were discharged during the year, but as there were fifty-three discharges in 1938 and there is a strong probability of a similar number being ready in 1940, this lower figure need not be regarded with concern. In order to estimate any thing in the nature of a discharge rate it is necessary to take an average over a number of years, rather than to concentrate on any single year. The thirteen cases included in Neural–1 and Neural–2 classes exemplify the better prognosis hinted at above, in these stages.

TABLE IV.—DISCHARGES ACCORDING TO RACE AND TYPE.

1939.	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Fijian .	..	1	2	1	1	..	..	..	..	..	..	..	3	2	5*
Indian	2	..	..	2	..	..	2	..	1	..	..	..	5	2	7
Solomon Islander	1	1	..	..	..	..	..	..	..	..	..	..	1	1	2
Rotuman	1	..	..	1	..	..	..	..	..	..	..	..	1	1	2
Cook Islander	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
	5	2	2	4	1	..	2	..	1	..	..	..	11	6	17*
Totals	7		6		1		2		1		..		17		

* Omitting one unconditional discharge.

Deaths.—The thirteen Neural–2 deaths reported appear to contradict the above statements as to the good prognosis in such cases, but this figure must in any case be taken in relation to the comparatively large number of patients so classified. Moreover these deaths occurred as the result of general debility in elderly patients rather than of leprosy. Causes of death may be classified as follows:—

Debility (prolonged leprosy, senility, etc.)	19
Nephritis	8
Gangrene, septicæmia	2
Tuberculosis (pulmonary, spinal and abdominal)	7
Cardio-vascular disease	6
Liver abscess	1
Pneumonia	1
	44

DEATHS, 1939.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Fijian	..	..	3	1	..	..	..	..	6	4	..	..	9	5	14
Indian	1	..	6	..	..	..	..	..	6	..	1	..	14	..	14
Solomon Islander	..	..	1	..	..	..	..	..	3	..	..	..	4	..	4
Cook Islander	..	..	1	..	..	1	..	..	4	..	..	..	5	1	6
Tongan	..	..	..	1	..	..	..	..	1	..	..	..	1	1	2
Rotuman	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Samoan	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Gilbert Islander	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
Maori..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Totals	2	..	11	2	1	1	..	..	21	4	2	..	37	7	44
	2		13		2		..		25		2		44		

Treatment.—Little can be added to previous statements regarding treatment, particularly to that contained in the 1938 report, which included the general finding of the International Leprosy Congress at Cairo.

Apart from measures directed to the general health of patients, comprising a liberal diet, and open air life, moderate exercise and the elimination of intercurrent diseases, the intramuscular and intradermal injection of Chaulmoogra preparations still hold pride of place as the nearest approach to a "specific" treatment so far discovered.

Vitamin B injected intramuscularly has been found of much value during the year in certain cases of acute ulnar neuritis. Other cases have, however, in spite of this treatment, continued to demand nerve decapsulation for the condition.

As an extension of the use of a mixture of Gentian Violet, Brilliant Green and Acriflavine as a treatment for burns (to which lepers with their anæsthetic extremities are so prone) we have found it extremely useful for the treatment of lepromatous ulcers. Large disfiguring ulcers of the face and elsewhere, which have resisted a variety of treatments, have within a few days cleared under the use of this preparation, leaving minimal scars. Another advantage is that it is an "open" method of treatment; which does not require the use of bandages. It is now eagerly demanded by patients with open ulceration.

1939.	Injections.							Total of injections.	Dressings.	Patients dressed.	Operations.	Autopsies.	Laboratory examinations.			Total of Laboratory examinations.
	Chaulmoogra oil.	Salvarsan.	Dilester.	Manganese.	Methylene blue.	Insulin.	Various other injections.						Urine analyses.	Bacteriological examinations.	Parasitic examinations.	
January	1,601	16	.	43	4	61	28	1,753	7,920	3,960	.	.	67	42	26	135
February	1,537	22	.	41	8	39	35	1,682	5,760	2,896	1	.	70	62	49	181
March	2,032	9	2	22	19	50	18	2,152	7,174	3,587	2	.	71	65	40	176
April	1,024	16	.	22	14	40	48	1,164	7,276	3,587	.	.	62	53	51	166
May	2,093	32	12	25	3	51	38	2,254	7,004	3,298	.	.	67	6	25	98
June	1,913	28	45	15	7	72	22	2,102	7,293	3,145	.	.	69	67	45	181
July	1,015	19	23	13	2	81	25	1,178	6,930	3,366	.	.	70	14	60	144
August	2,557	33	38		2	89	71	2,790	5,616	3,456	4	1	72	49	102	223
September	2,121	16	32	15	6	79	12	2,281	6,987	3,230	3	.	69	148	22	239
October	1,960	14	37	8	2	77	69	2,167	8,784	3,762	2	.	71	80	46	197
November	1,888	15	19	20	5	116	97	2,160	6,579	2,958	2	.	98	73	87	258
December	1,329	14	11	5	.	113	47	1,519	6,817	3,434	.	.	124	76	56	256
Totals ..	21,070	234	219	229	72	868	510	23,202	84,140	40,679	14	1	910	735	609	2,254

Results of treatment.—Progress of the various communities is shown in the following series of tables in relation to type of leprosy. This series is also summarised in the two tables showing progress in relation to type of leprosy and in relation to race respectively:—

FIJIAN.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Arrested	..	1	2	1	1	1	..	..	..	..	..	..	3	3	6
Quiescent	8	2	21	13	..	..	2	..	5	1	..	..	36	16	52
Improved	..	2	4	10	1	..	..	..	10	2	1	..	16	14	30
Stationary	..	..	2	..	..	2	2	..	13	7	1	..	18	9	27
Worse	..	..	..	..	..	..	..	..	3	1	..	..	3	1	4
Died	..	..	3	1	..	..	..	..	6	4	..	..	9	5	14
Totals ..	8	5	32	25	2	3	4	..	37	15	2	..	85	48	133
	13		57		5		4		52		2		133		

Neural, 56·4 per cent.; Improved, 66·16 per cent.; Inactive, 43·6 per cent.

INDIAN.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Arrested	2	..	1	3	..	1	2	..	1	..	..	..	6	4	10
Quiescent	4	1	23	12	..	2	8	1	15	10	..	..	50	26	76
Improved	..	..	5	..	..	..	5	1	46	4	1	..	57	5	62
Stationary	..	..	4	1	..	..	..	2	26	12	3	1	33	16	49
Worse	..	..	4	..	..	..	..	..	6	1	1	..	11	1	12
Died	1	..	6	..	..	..	..	..	6	..	1	..	14	..	14
Totals ..	7	1	43	16	..	3	15	4	100	27	6	1	171	52	223
	8		59		3		19		127		7		223		

Neural, 31·4 per cent.; Improved, 66·36 per cent.; Inactive, 38·5 per cent.

SOLOMON ISLANDER.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Arrested	1	1	..	..	..	..	..	..	..	..	..	..	1	1	2
Quiescent	3	..	8	2	..	..	1	1	1	..	..	..	13	3	16
Improved	1	..	1	2	..	..	..	..	4	1	..	..	6	3	9
Stationary	1	..	2	..	..	..	..	..	7	1	..	..	10	1	11
Worse	..	..	1	..	..	..	..	..	2	..	..	..	3	..	3
Died	..	..	1	..	..	..	..	..	3	..	..	..	4	..	4
Totals	6	1	13	4	..	..	1	1	17	2	..	..	37	8	45
	7		17		..		2		19		..		45		

ROTUMAN.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Arrested	1	..	..	2	..	..	..	..	..	..	..	..	1	2	3
Quiescent	2	4	4	..	1	..	..	..	..	1	..	..	7	5	12
Improved	..	2	1	..	..	..	..	..	1	1	..	..	2	3	5
Stationary	..	..	1	..	..	..	..	..	6	..	..	..	7	..	7
Worse	..	..	..	..	..	..	..	..	2	..	..	..	2	..	2
Died	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals	4	6	6	2	1	..	..	..	9	2	..	..	20	10	30
	10		8		1		..		11		..		30		

COOK ISLANDER.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Arrested	1	...	..	..	..	..	..	..	..	..	..	..	1	..	1
Quiescent	17	16	2	3	..	..	..	..	1	..	..	..	20	19	39
Improved	1	..	1	..	..	..	..	..	..	4	..	3	2	7	9
Stationary	3	..	2	3	..	..	1	..	4	1	2	1	12	5	17
Worse	..	1	..	1	..	..	1	..	1	2	..	..	2	4	6
Died	..	..	1	..	..	1	..	..	4	..	..	..	5	1	6
Totals	22	17	6	7	..	1	2	..	10	7	2	4	42	36	78
	39		13		1		2		17		6		78		

Neural, 67·9 per cent.; Improved, 62·8 per cent.; Inactive, 51·3 per cent.

GILBERT ISLANDER.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Arrested	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Quiescent	8	3	3	3	..	..	1	..	1	..	..	..	13	6	19
Improved	..	..	4	1	..	..	1	..	8	2	5	..	18	3	21
Stationary	..	1	..	..	..	..	..	..	7	2	1	3	8	6	14
Worse	..	..	..	..	..	..	1	..	3	2	..	1	4	3	7
Died	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
Totals	8	4	7	4	1	..	3	..	19	6	7	4	45	18	63
	12		11		1		3		25		11		63		

Neural, 38·1 per cent.; Improved, 65·08 per cent.; Inactive, 31·7 per cent.

SAMOAN.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Quiescent	..	..	2	1	..	..	..	..	1	1	..	..	3	2	5
Improved	..	..	2	1	..	..	..	..	2	2	1	..	5	3	8
Stationary	1	..	1	..	..	..	..	..	3	1	..	..	5	1	6
Died	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
Totals	1	..	5	2	..	..	..	..	6	4	2	..	14	6	20
	1		7		..		..		10		2		20		

TONGAN.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Quiescent	..	..	..	1	1	..	..	1	..	1	..	..	1	3	4
Improved	..	..	1	..	..	1	..	..	1	2	..	1	2	4	6
Stationary	..	..	..	..	..	..	..	..	1	1	..	..	1	1	2
Died	..	..	..	1	..	..	..	..	1	..	..	..	1	1	2
Totals ..	..	..	1	2	1	1	..	1	3	4	..	1	5	9	14
	..		3		2		1		7		1		14		

NIUE ISLANDER.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Quiescent	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Improved	..	2	..	..	..	..	..	..	1	1	..	..	1	3	4
Totals ..	..	2	..	..	..	..	..	..	2	1	..	..	2	3	5
	2		..		..		..		3		..		5		

MAORI.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Died	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Totals ..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
	..		..		1		..		..		..		1		

CHINESE.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Improved	..	..	1	..	..	..	..	..	2	..	..	..	3	..	3
Stationary	..	..	..	..	..	..	..	..	3	..	..	..	3	..	3
Worse	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Totals ..	..	..	1	..	..	..	..	..	6	..	..	..	7	..	7
	..		1		..		..		6		..		7		

P.E.N.D.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Quiescent	..	1	..	1	..	..	..	..	..	..	..	..	..	2	2
Improved	1	..	1	..	..	..	..	..	4	..	..	..	6	..	6
Stationary	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1
Worse	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Totals ..	1	1	1	1	..	..	..	..	5	1	..	..	7	3	10
	2		2		..		..		6		..		10		

EUROPEAN.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Quiescent	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Improved	..	..	..	..	..	..	..	..	2	..	..	..	2	..	2
Totals ..	..	..	..	..	..	..	..	..	3	..	..	..	3	..	3
	..		..		..		..		3		..		3		

PROGRESS RELATED TO TYPE OF LEPROSY.

	Neural 1		Neural 2		Neural 3		Lepromatous 1		Lepromatous 2		Lepromatous 3		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Arrested	5	2	3	6	2	2	2	..	1	..	..	..	13	10	23
Quiescent	42	27	63	36	2	2	12	3	26	14	..	..	145	82	227
Improved	3	6	21	14	1	1	6	1	81	19	8	4	120	45	165
Stationary	5	1	12	4	..	2	3	2	70	26	7	5	97	40	137
Worse	..	1	5	1	..	..	2	..	19	6	1	1	27	9	36
Died	2	..	11	2	1	1	..	..	21	4	2	..	37	7	44
Totals ..	57	37	115	63	6	8	25	6	218	69	18	10	439	193	632
	94		178		14		31		287		28		632		

45·2 % Neural. 65·6 % Improved. 39·5 % Inactive.

RACE IN RELATION TO PROGRESS.

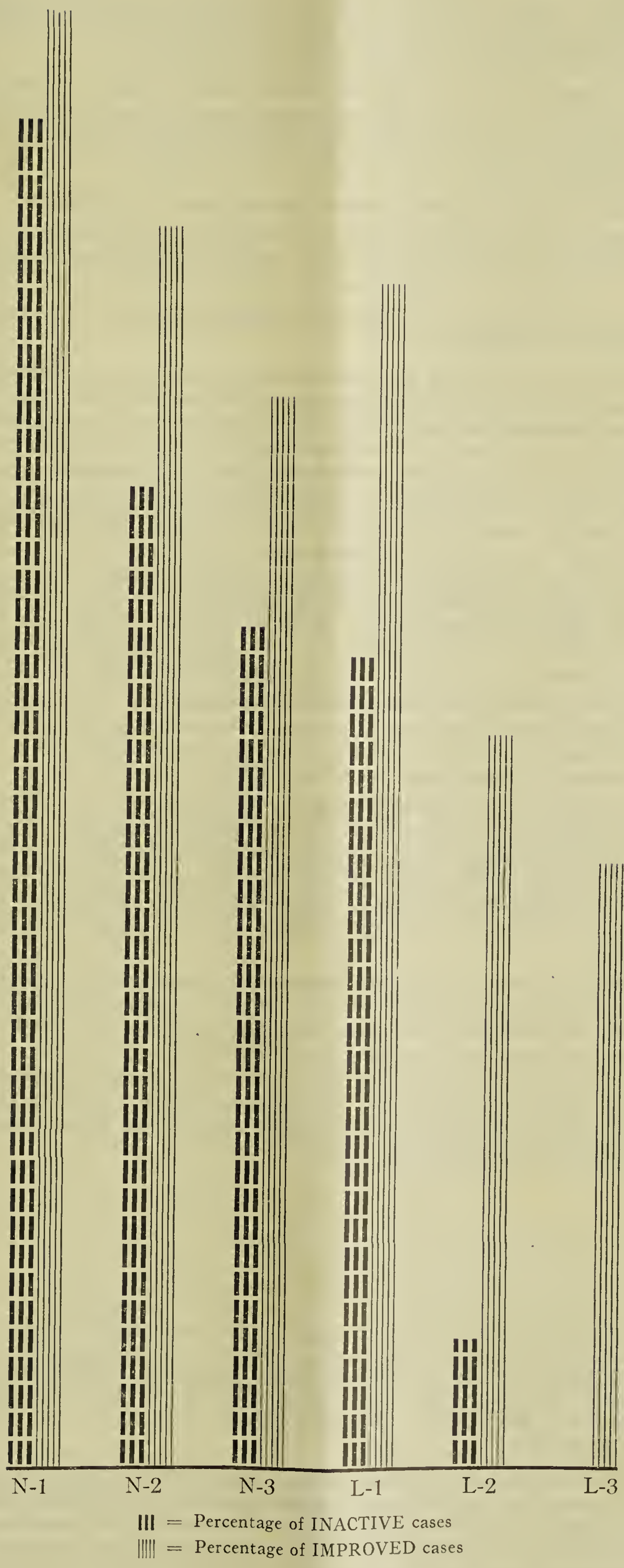
1939.	Arrested.		Quiescent.		Improved.		Stationary.		Worse.		Dead.		Total.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Fijian	3	3	36	16	16	14	18	9	3	1	9	5	85	48	133
Indian	6	4	50	26	57	5	33	16	11	1	14	..	171	52	223
Solomon Islanders	1	1	13	3	6	3	10	1	3	..	4	..	37	8	45
Rotuman	1	2	7	5	2	3	7	..	2	..	1	..	20	10	30
Cook Islanders ..	1	..	20	19	2	7	12	5	2	4	5	1	42	36	78
Gilbert Islanders ..	1	..	13	6	18	3	8	6	4	3	1	..	45	18	63
Samoan	..	..	3	2	5	3	5	1	..	..	1	..	14	6	20
Tongan	..	..	1	3	2	4	1	1	..	..	1	1	5	9	14
Niue Islanders ..	..	..	1	..	1	3	..	..	..	..	..	..	2	3	5
Maori	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
Chinese	..	..	..	..	3	..	3	..	1	..	..	..	7	..	7
P.E.N.D.	..	..	..	2	6	..	..	1	1	..	..	..	7	3	10
European	..	..	1	..	2	..	..	..	..	..	..	..	3	..	3
	13	10	145	82	120	45	97	40	27	9	37	7	439	193	632
Totals ..	23		227		165		137		36		44		632		

It will be noted once again that in spite of the fact that 25 per cent. more Lepromatous cases occur among the Indians than among the Fijians, the Indians " improve " in slightly better proportions than the Fijians and are only five per cent. below the latter in " inactive " cases. The fact that the comparatively recently arrived Gilbert Islanders, whose normal diet at home is so restricted, give results similar to those of the Indians, lends support to the previously offered suggestion that the apparent anomaly in the Indian results is due to dietetic factors.

The regular gradation in results, from early Neural cases to advanced Lepromatous cases is shown in the following summary of results and illustrated in the accompanying Bar Diagram.

	Inactive.	*Improved.*
Neural 1	80·8 per cent.	90·4 per cent.
Neural 2	60·6 ,,	80·3 ,,
Neural 3	57·1 ,,	71·5 ,,
Lepromatous 1 ..	54·8 ,,	77·4 ,,
Lepromatous 2 ..	14·3 ,,	49·1 ,,
Lepromatous 3 ..	0 ,,	42·8 ,,

PROGRESS IN RELATION TO TYPE.



Public works.—Maintenance of existing buildings and the construction of any new buildings in the Hospital area are all carried out by specially trained patients. This not only keeps a number of patients interested and well occupied, but gives them a useful trade which may enable them to re-establish themselves after discharge, as well as an income with which they are encouraged by a local Savings Scheme to build a " nest-egg " for the future. Thus, during 1939 patients received a total income of £735 16s. 4d. for public works.

Makogai produce.—Large numbers of fowls and ducks are kept in the villages by individual patients and the Hospital poultry yards run by a Native Sister with the assistance of young school girls keep the Hospital kitchen well supplied with fowls and eggs.

The produce of patients' gardens sold for Hospital use at current rates realised £919 12s. 7d.

Fourteen tons of fresh beef and seven thousand gallons of milk were issued to patients from the farm. Indian patients catch and utilise goats from the hillsides—over three hundred having been used during the past year.

Six tons of soap made from local coconut oil were issued to patients.

The Chaulmoogra plantations continue to do well, but large numbers of nuts were lost during the heavy rains in the early part of the year. Oil produced amounted to a little more than five gallons.

The turn-over of the Patients' Co-operative Store amounted to nearly £3,500 and that of the Nasau Staff Canteen to £2,000.

General.—The loss of the " Adi Eci," the Makogai cutter, which was wrecked in a storm early in the year, has seriously inconvenienced the administration of the island. The absence of our own transport has continually added to the cost of provision and materials and has necessitated an increase of prices in the two stores. A new Diesel-engined vessel with auxiliary sail was launched on the 28th December as the " Makogai," and should shortly be available.

The patients, who are intensely loyal, have been eagerly listening-in to news broadcasts. In a speech at a general gathering, a Fijian patient said that they hoped the opportunity for them to do something to help the Empire would soon arise. Shortly afterwards news came that the New Zealand appeal for Christmas gifts for Makogai had already reached the sum of £200, and the patients at once seized on the opportunity by asking that £100 of this sum should be given on their behalf to the New Zealand Red Cross Appeal. A letter from the Dominion Secretary of the New Zealand Red Cross Society, in acknowledging the gift, stated " how much the members of the Red Cross have been touched by the very fine and spontaneous gesture of the leper folk."

The continued and, indeed increasing interest and generosity of the people of New Zealand makes a great difference to the amenities available to the patients. Over one hundred cases of gifts were sent at Christmas and a large sum of money was collected with which we are enabled to provide minor " luxuries " for patients throughout the year.

The modern " Talkie " equipment provided by the generosity of the Rotary Clubs of Suva and New Zealand has now been in operation for nearly eighteen months. The patients show the keenest interest in the films, and greet the announcement of well-known " stars " with applause. In this connection a special tribute should be paid to the kindness of Mr. L. Noerr of Suva, who not only installed the apparatus, but has paid periodical visits since with the idea of ensuring its maximum efficiency. He has also obtained promises of regular supplies of films from a number of the film companies.

A gift of £100 from Lord Beatty has made possible the construction of a wharf for the use of patients. This not only saves the copper of the patients' launches and small boats, which were continually damaged by being dragged ashore over the coral, but also enables the leper barge to come alongside so that patients can now land in comfort.

Visitors.—Visitors to Makogai during the year included His Excellency the Governor of Fiji, Sir Harry Luke, K.C.M.G.; Dr. V. W. T. McGusty, O.B.E., Director of Medical Services; Mr. W. Wise, O.B.E., Director of Public Works; Major Renton; Mr. Trafford Smith; Mr. Nicholls, A.D.C.; and His Lordship, the Bishop of Tahiti.

HEALTH SURVEY AT VATUKOULA MINE FIELD.

During the months of October, November and December, 1939, a survey of 720 workers on the Vatukoula gold field was carried out. The object of this survey was to determine the effect of mining on the health of the workers, chiefly the Fijians, with especial reference to the incidence of Silicosis and Tuberculosis.

Six hundred and ninety-five Fijians were examined, 16 Half-castes and nine Europeans. The examination consisted of a full clinical examination with weight and height measurement, etc., an X-ray examination of the chest, tuberculin tests, hæmoglobin estimation and stool examinations for intestinal parasites. Sputum examinations were carried out when considered necessary on clinical or radiological grounds. The living and working conditions of the miners were also fully investigated.

RESULTS.

A.—*Silicosis.*

No definite case of silicosis was found on clinical or radiological examination. The methods adopted for the prevention of silicosis were on the whole considered to be satisfactory. These consist essentially of methods of ventilation and the use of water. Blowers, fans, and venturies are being increasingly used, while churn drill holes have also proved of value. Blasting is confined to crib recesses and operations are so arranged that the men do not return to the recently fired working place until reasonable opportunity has been allowed for the sweeping away of dust and fumes. Some additional attention could, with advantage, be paid to increased ventilation underground in confined working spaces. A new system of dust collection is being installed in the Loloma mill, which should do much to abate the considerable dust nuisance in this mill. Only wet drilling is employed, and where necessary muck and ore piles are wetted down before shovelling is undertaken.

Conimetric samples are taken by the Inspector of Mines on his visits and examined by a Zeiss Conimeter. Where the sample appears to contain more than 300 particles per c.c. steps are taken on the spot to remedy this. Mineralogically the dusts of the Mines are found to contain abundant free silica and silicates such as sericite. The possibility of the occurrence of silicosis must, therefore, continue to be borne in mind, and with this in view it is recommended that:—

(i) that the present system of anti-dust precautions be continued;

(ii) that the survey recently completed be extended to the Mount Kasi Mine, that the picture of the present condition of the health of the miners of the Colony may be complete;

(iii) that careful watch continue to be kept for the possible occurrence of silicosis in the future, by the repetition of similar surveys to the one just completed, these surveys to be carried out at yearly or bi-yearly intervals, and to include all mine workers, especially Europeans;

(iv) that experimental work be initiated to find out the possibility of producing silicosis in laboratory animals with actual samples of dust from the mines of the Colony, and of measures of control and possible treatment.

B.—*Tuberculosis.*

1. *Clinical Cases.*—No cases of tuberculosis were found amongst the Europeans and Half-castes, but out of the 695 Fijians examined 23 such cases were found, giving an incidence of 3·1 per cent. The figures, though too small for reliable inference, showed a slightly higher incidence for underground than for surface workers.

Nearly all the cases of pulmonary disease found were early cases with definite signs on radiological examination only. Five cases of tuberculosis of lymph glands were found, three of which had signs in the lungs in addition. Only one case with a sputum positive for tubercle bacilli was detected.

The incidence of tuberculosis is a high one, but owing to the lack of evidence concerning the incidence of tuberculosis amongst the general population, it is impossible to say whether mining really does predispose to tuberculosis amongst the Fijians. It may well be that any increased liability to tuberculosis incident to employment in mining is counterbalanced by the fact that the field is a small field and therefore the living conditions compare favourably with the overcrowded slums and smokeladen atmosphere of many mining districts in the United Kingdom and that once symptoms due to tuberculosis arise the miner tends to return to his village, and has often left the mine before his disease has reached the infectious stage.

Further increased work on tuberculosis is obviously necessary with a view to finding out what the general incidence of the disease is, and what methods of treatment and control are most suitable.

2. *Tuberculin Tests.*—Six hundred and seventy-eight men were given tuberculin tests, of which 603 gave a positive reaction to some form of tuberculin. This percentage positively of 85·7 per cent was considered high for a comparatively primitive race such as the Fijians, and the fact that no marked rise of percentage occurred with age is thought to indicate that there has been an increase in tuberculous infection of recent years. The Lederle tuberculin patch was used in addition to an intradermal Mantoux test of ·1 c.c. of one in a thousand old tuberculin. This was found to give exceedingly satisfactory results, only 43 cases giving a reaction that disagreed with the Mantoux reaction, or a percentage accuracy of 83·9 per cent.

Blood Sedimentation Rate estimations were also carried out by the Westergren method. It was found that although in some cases the results were a help, many cases had a high sedimentation with apparently no other signs of disease beyond parasitic worm infestation. It is suggested that the recentness or otherwise of such infestations may have an effect on the sedimentation rate. In view of the high universal worm infestation rate it must be concluded that at the moment the blood sedimentation rate is of little use as a diagnostic measure. As a method of gauging progress it is still of considerable value. Experimental work is at the moment contemplated by the Government Pathologist with a view to establishing a figure for the normal Blood Sedimentation Rate in the Colony.

C.—*Sanitary conditions.*

Stools of 675 men were examined for worms. Of this 522, or 80 per cent, were positive for some form of intestinal parasite: 70 per cent were positive for Hookworm: the odd 10 per cent were made up of Ascaris, Trichuris, Oxyuris and Hymenolepis nana.

Stools of 30 European children were also examined for worms, only two were found positive, or 6·6 per cent; 47 miners were also examined at random for Entamœbæ Histolyticæ cysts, two being found positive, or a percentage of 4·3. This high incidence of worm infestation amongst the native employees might be attributable to certain faults in the sanitary system at present used on the mines. Suggestions for the improvement of this have been submitted to the mines authorities.

RETURN OF DISEASES AND DEATHS AT THE COLONIAL WAR MEMORIAL HOSPITAL FOR THE YEAR 1939.

Disease.	Admissions.					Deaths.
	Europeans.	Fijians.	Indians.	Others.	Total.	
Infectious Diseases.						
Enteric Fever—Typhoid	2	5	30	4	41	6
Enteric Fever—Para-typhoid	..	..	..	..	..	..
Dysentery, Bacillary	2	56	68	19	145	7
Dysentery, Amœbic	10	4	15	4	33	5
Malaria	1	..	..	..	1	..
Measles	..	..	..	..	..	..
Scarlet Fever	..	..	..	..	..	..
Pertussis	..	..	..	..	..	..
Diphtheria	1	1	..	2	4	1
Influenza	24	63	79	26	192	1
Mumps	..	..	2	..	2	..
Acute anterior poliomyelitis	..	..	..	..	..	..
Encephalitis lethargica	..	..	..	..	..	..
Meningococcal Meningitis	..	..	..	..	..	..
Chicken Pox (Varicella)	..	2	2	1	5	..
Smallpox (Variola)	..	..	..	..	..	..
Cowpox (Vaccinia)	..	..	1	..	1	..
Ratbite Fever	..	..	..	..	..	..
Tetanus	..	5	1	..	6	3
Acute Coryza	..	..	1	..	1	..
Sapræmia, Septicæmia and Pyæmia	..	1	2	..	3	2
Dengue	..	..	..	..	..	..
Undulant Fever	..	..	..	..	..	..
Rheumatic Fever	2	6	17	2	27	..
Glandular Fever	..	..	..	..	..	..
Frambœsia—Yaws	..	11	..	1	12	..
Leprosy	..	3	10	..	13	1
Ex Lepers from Makogai	..	..	..	..	..	..
Febricula	..	..	..	..	..	..
Fungus Diseases	..	1	..	..	1	..
Other infectious diseases	..	..	2	..	2	..
Total	42	158	230	59	489	26
Tuberculosis and Venereal Diseases.						
Miliary Tuberculosis	..	1	1	..	2	2
Tuberculous Meningitis	..	1	2	..	3	2
Pulmonary Tuberculosis	4	39	25	11	79	24
Tuberculous Spinal caries	1	2	..	4	7	..
Tuberculosis of bones, joints, tendon sheaths and bursæ	..	2	..	2	4	1
Tuberculosis of lymph glands	..	5	6	3	14	..
Genito-urinary Tuberculosis	..	..	..	..	..	..
Abdominal Tuberculosis	1	3	2	..	6	2
Other forms of Tuberculosis	..	1	1	1	3	..
Primary Syphilis	1	..	..	1	2	..
Secondary Syphilis	2	..	1	..	3	..
Tertiary Syphilis	..	..	2	..	2	..
Late syphilitic manifestations.	..	..	..	..	..	..
Congenital Syphilis	..	..	1	..	1	1
Acute gonococcal infections	..	2	3	1	6	..
Chronic gonococcal infections	2	2	4	2	10	..
Gonorrhœal Ophthalmia (including Ophthalmia Neonatorum)	..	..	..	1	1	..
Chancroid and Climatic Bubo	1	..	..	..	1	..
Total	12	58	48	26	144	32
Benign Tumours and Cysts.						
Lipoma	..	..	..	1	1	..
Fibroma	..	..	..	..	..	..
Papilloma	4	..	1	..	5	..
Adenoma	..	..	..	..	..	..
Dermoids and Teratoma	..	..	..	..	..	..
Sebaceous Cysts	..	1	1	..	2	..
Hydatid Cysts	..	..	..	..	..	..
Other types of Benign Tumours and Cysts	..	..	1	..	1	..
Dental Cysts	..	..	..	..	..	..
Total	4	1	3	1	9	..

Disease.	Admissions.					Deaths.
	Europeans.	Fijians.	Indians.	Others.	Total.	
Malignant Diseases.						
Rodent ulcer	16	..	..	..	16	..
Epithelioma of Skin	3	1	..	..	4	..
Carcinoma of—						
Lip and mouth	..	..	2	..	2	1
Tongue	..	..	1	..	1	1
Pharynx	1	..	..	..	1	..
Oesophagus	..	..	..	..	..	..
Stomach	1	1	1	..	3	1
Intestines	..	..	..	..	..	..
Rectum	..	..	..	..	..	..
Gall bladder and Bile ducts	..	..	1	..	1	..
Urinary bladder	..	..	..	..	..	..
Kidney, Ureter	..	..	..	..	..	..
Breast	..	..	..	1	1	..
Vulva and Vagina	..	..	..	..	..	..
Uterus	..	..	..	1	1	1
Ovaries	..	..	..	..	..	..
Secondary	..	..	..	1	1	..
Of other organs	1	3	3	..	7	1
Osteogenic Sarcoma	..	..	2	..	2	1
Melanotic Sarcoma	..	1	..	..	1	1
Lymphosarcoma	..	1	..	..	1	..
Secondary Sarcoma	..	..	..	..	..	..
Other types of Sarcoma	..	..	..	..	..	..
Total	22	7	10	3	42	7
Diseases of Metabolism and Endocrine Organs.						
Diabetes Mellitus	3	2	15	..	20	3
Gout	..	..	..	..	..	..
Goitre, Simple Non-toxic	..	..	..	..	..	..
Goitre, Toxic Exophthalmic	..	..	1	..	1	..
Diseases of Pituitary Gland	..	..	..	..	..	..
Addison's Disease	..	..	..	..	..	..
Obesity	..	..	..	..	..	..
Infantilism	..	..	..	..	..	..
Other Endocrine Disorders	..	..	..	..	..	..
Rickets	1	1	..	..	2	1
Epidemic Dropsy	..	..	..	..	..	..
Pellagra	..	..	..	..	..	..
Myxœdema	..	..	..	..	..	..
Total	4	3	16	..	23	4
Diseases of the Blood and Chronic Intoxications.						
Primary Anæmia, Pernicious	..	..	3	..	3	1
Primary Anæmia, Chlorosis	..	..	..	..	..	..
Secondary Anæmia	1	2	33	..	36	3
Other types of Anæmia	..	..	..	..	..	..
Leukæmia	..	..	1	..	1	..
Polycythæmia	..	..	..	..	..	..
Purpura	1	..	..	..	1	..
Hæmophilia	..	..	..	..	..	..
Lymphadenoma	1	1	..	..	2	..
Filariasis	..	5	3	2	10	1
Alcoholism—Acute and Chronic	5	1	..	..	6	1
Lymphangitis and Lymphadenitis	4	9	13	2	28	..
Chronic Metallic and Drug Intoxications	1	..	..	..	1	..
Total	13	18	53	4	88	6
Diseases of the Nervous System.						
Peripheral Neuritis—Multiple Neuritis	1	..	1	..	2	..
Sciatica	1	..	..	..	1	..
Trigeminal Neuralgia—Tic Doloreux	..	..	1	..	1	1
Other forms of Neuritis and Neuralgia	2	..	..	1	3	..
Lesions of Peripheral Nerves	..	..	..	..	..	..
Tumours of Spinal Cord	..	..	..	..	..	..
Myelitis	..	..	..	..	..	..
Disseminated Sclerosis	..	..	..	..	..	..
Syringomyelia	..	..	..	..	..	..

RETURN OF DISEASES AND DEATHS AT THE COLONIAL WAR MEMORIAL HOSPITAL FOR THE YEAR 1939.—*continued.*

Disease.	Admissions.					Deaths.
	Europeans.	Fijians.	Indians.	Others.	Total.	
Tabes Dorsalis (Locomotor-Ataxia)	1	..	..	..	1	..
General Paralysis of the Insane	..	..	1	..	1	..
Meningitis (except Meningococcal and Tuberculous ..	..	..	4	2	6	4
Cerebral Hæmorrhage, Thrombosis and Embolism	3	..	2	..	5	1
Cerebral Abscess	..	..	..	..	..	..
Paralysis Agitans, and Post-encephalitic Parkinsonism ..	..	..	..	..	..	..
Intracranial Tumours	..	1	..	..	1	1
Hydrocephalus	..	..	..	..	..	..
Chorea	..	..	1	1	2	..
Epilepsy	2	1	1	1	5	..
Migraine	..	..	..	..	..	..
Hysteria and Neurasthenia ..	5	..	3	..	8	..
Insanity and Idiocy	2	3	8	1	14	2
Other diseases of the Nervous system..	..	3	3	1	7	..
Hemiplegia	4	1	7	1	13	3
	21	9	32	8	70	12
Diseases of the Circulatory System.						
Abnormalities of Cardiac Rhythm	..	2	..	1	3	..
Acute Endocarditis and Myocarditis	2	..	..	..	2	..
Myocardial Degeneration ..	1	9	51	2	63	38
Chronic Valvular Disease of the Heart	3	2	8	1	14	8
Congenital Heart Lesions ..	..	1	..	..	1	1
Pericarditis	..	4	..	1	5	..
Angina Pectoris	..	..	..	..	..	..
Arterio-sclerosis	..	1	..	..	1	..
Hyperpiesia	6	..	6	1	13	8
Aneurysm	..	..	..	..	..	..
Phlebitis, Thrombosis and Embolism	5	1	1	..	7	..
Varicose Veins	2	..	1	..	3	..
Total	19	20	67	6	112	55
Diseases of the Respiratory System.						
Foreign Body in the air passages	..	..	..	..	..	..
Bronchitis—Acute	1	14	23	10	48	2
Bronchitis—Chronic	2	5	11	2	20	3
Bronchiectasis	1	3	2	..	6	..
Asthma	..	..	10	1	11	3
Emphysema	..	..	..	..	..	..
Pneumonia—Lobar	2	19	16	3	40	8
Bronchopneumonia	..	15	15	1	31	14
Pneumonia—Hypostatic ..	1	..	1	..	2	..
Abscess and Gangrene of Lung	..	1	..	1	2	1
Pleurisy—Dry	..	4	1	4	9	..
Pleurisy—with effusion ..	..	6	2	2	10	..
Empyema	..	..	..	1	1	1
Other diseases of the Respiratory System	..	..	2	1	3	..
Total	7	67	83	26	183	32
Diseases of the Alimentary System.						
Stomatitis	..	2	..	..	2	..
Diseases of Teeth and Gums ..	5	2	6	2	15	..
Diseases of Salivary Glands ..	3	..	..	1	4	..
Foreign body in Oesophagus ..	1	1	..	..	2	..
Oesophageal Stenosis and Diverticula	1	1	..	..	2	..
Dyspepsia (acute and chronic) and Functional Gastric disorders	2	1	2	..	5	..
Acute Gastritis	2	..	..	..	2	..
Peptic Ulcer—Gastric	..	2	8	2	12	1
Peptic Ulcer—Duodenal ..	1	..	2	..	3	..
Peptic Ulcer—Jejunal after Gastro-enterostomy	..	..	..	..	..	..

Disease.	Admissions.					Deaths.
	Europeans.	Fijians.	Indians.	Others.	Total.	
Perforated Peptic Ulcer ..	..	..	..	..	..	..
Congenital Hypertrophic Pyloric Stenosis	..	..	..	..	..	..
Constipation	1	2	7	2	12	..
Diarrhœa	1	8	11	..	20	..
Enteritis and Gastro-enteritis..	3	18	40	2	63	8
Food-poisoning	1	1	1	2	5	..
Intestinal obstruction	..	..	..	..	..	..
Foreign Bodies in Stomach and Intestines	..	..	3	..	3	..
Visceroptosis	1	..	3	..	4	..
Intussusception	..	1	1	..	2	1
Colitis	6	46	98	9	159	8
Diverticulosis and Diverticulitis	1	..	..	..	1	..
Intestinal parasites	..	31	93	6	130	1
Peri-anal and Ischio-rectal Abscess	1	3	8	2	14	..
Anal Fissure and Fistula ..	1	1	7	1	10	..
Hæmorrhoids and Rectal Prolapse	1	..	2	1	4	..
Pruritis Ani.	1	..	..	..	1	..
Amœbic Hepatitis and Hepatic Abscess	..	1	1	..	2	..
Catarrhal Jaundice	4	3	2	2	11	..
Cirrhosis of Liver	..	..	..	..	..	..
Cholecystitis and Cholangitis ..	2	2	7	2	13	1
Cholelithiasis	..	..	..	..	..	..
Acute Pancreatitis	..	..	1	..	1	..
Other diseases of the Alimentary System	1	2	8	..	11	..
Gallstones	..	..	..	..	..	..
Total	40	128	311	34	513	20
Diseases of Appendix and Peritoneum.						
Appendicitis, Chronic	8	1	2	1	12	1
Appendicitis, Subacute ..	6	3	5	1	15	..
Appendicitis, Simple Acute ..	2	..	..	1	3	..
Appendicitis, with Localised .. Abscess	2	..	..	1	3	1
Appendicitis, with General Peritonitis	..	..	1	..	1	..
Acute Peritonitis	..	..	3	..	3	1
Peritoneal Adhesions	..	..	..	..	..	..
Total	18	4	11	4	37	3
Hernia.						
Inguinal Hernia—Oblique or Indirect	1	12	2	5	20	..
Inguinal Hernia—Direct ..	1	..	..	..	1	..
Femoral Hernia	1	..	..	..	1	..
Umbilical Hernia	..	1	..	..	1	..
Ventral Hernia	1	..	2	..	3	1
Strangulated Hernia	1	2	..	..	3	1
Other types of Hernia	1	1	1	..	3	..
Total	6	16	5	5	32	2
Diseases of the Urinary System.						
Acute Nephritis	..	..	2	2	4	..
Chronic Nephritis	3	2	5	..	10	4
Abnormal Mobility and Displacement of Kidney ..	..	..	2	..	2	..
Hydronephrosis & Pyonephrosis	..	..	..	1	1	..
Pyelitis	3	3	8	3	17	..
Perinephritis and Perinephric abscess	..	..	1	..	1	..
Polycystic Kidney	..	..	..	..	..	..
Urinary Calculi—Renal ..	3	..	..	..	3	..
Urinary Calculi—Ureteric ..	1	..	..	..	1	..
Urinary Calculi—Vesical ..	..	..	..	..	..	..
Urinary Calculi—Urethral ..	..	..	..	1	1	..
Cystitis Acute	..	1	4	1	6	..
Cystitis Chronic	..	..	1	..	1	..
Enuresis	..	..	..	..	..	..
Urethral Stricture	..	..	2	..	2	..
Urinary Fistula	..	..	..	..	..	..

RETURN OF DISEASES AND DEATHS AT THE COLONIAL WAR MEMORIAL HOSPITAL FOR THE YEAR 1938.—*continued.*

Disease.	Admissions.					Deaths.
	Europeans.	Fijians.	Indians.	Others.	Total.	
Other diseases of the Urinary System	2	1	4	..	7	..
Retention of Urine	2	1	2	..	5	..
Uræmia	1	1	3	..	5	3
Total	15	9	34	8	66	7
Diseases of Male Organs.						
Phimosis and Paraphimosis ..	1	1	3	3	8	..
Epispadias and Hypospadias ..	..	1	..	..	1	..
Impotence and Sterility ..	..	..	..	..	..	..
Hydrocele	2	5	4	4	15	..
Encysted Hydrocele of the Cord	..	..	..	..	..	..
Varicocele	..	..	..	..	..	..
Spermatocele	..	..	..	..	..	..
Epididymitis and Orchitis ..	..	3	1	..	4	..
Torsion of the Spermatic Cord	..	..	..	1	1	..
Ectopia testis–undescended and imperfectly descended testicle	..	1	..	..	1	..
Enlarged Prostate Gland ..	1	..	4	..	5	3
Elephantiasis of Scrotum ..	..	5	1	2	8	..
Other Diseases	..	2	3	..	5	1
Total	4	18	16	10	48	4
Diseases of Pregnancy, Labour and the Puerperium.						
Normal Pregnancy	1	5	37	2	45	..
Normal Labour	..	93	112	36	241	..
Displacements of the Pregnant Uterus	..	..	1	..	1	..
Abortion or miscarriage . ..	6	2	14	4	26	..
Premature Labour	..	2	8	..	10	1
Hydatidiform Mole	..	..	..	..	..	..
Extra-uterine Pregnancy ..	..	..	1	1	2	..
Accidental Haemorrhage ..	..	..	..	..	..	..
Placenta Prævia	..	..	..	..	..	..
Toxæmias of Pregnancy. ..	..	..	..	..	..	..
(*a*) Hyperemesis Gravidarum	1	..	1	..	2	..
(*b*) Albuminuria of Pregnancy	..	1	5	..	6	1
(*c*) Eclampsia.	..	..	8	..	8	1
Other diseases occuring during Pregnancy	..	1	4	..	5	1
Abnormal Presentations ..	1	1	3	..	5	..
Multiple Pregnancy	..	1	..	..	1	..
Hydramnios	..	..	..	..	..	..
Contracted Pelvis	..	..	..	..	..	..
Obstructed Labour	1	..	..	..	1	..
Rupture of Uterus	..	..	2	..	2	1
Acute Inversion of Uterus ..	..	..	..	..	..	..
Lacerations of the Genital Canal	..	17	6	3	26	..
Forceps Deliveries	1	..	8	..	9	..
Cæsarean Section	1	..	..	..	1	..
Other Obstetric Operations ..	1	3	9	2	15	..
Stillborn	..	1	2	..	3	..
Post-partum Hæmorrhage ..	..	4	1	4	9	..
Retained Placenta	1	2	2	..	5	..
Puerperal Sepsis	..	3	10	..	13	4
Phlegmasia Alba Dolens, and other Puerperal Thromboses.	..	..	2	..	2	..
Other intercurrent infections of the Puerperium	..	..	2	1	3	..
Puerperal Insanity	..	..	..	..	..	..
Total	14	136	238	53	441	9
Diseases of Women.						
Disorders of Menstruation ..	5	4	6	4	19	..
Pruritus Vulvæ	..	..	..	..	..	..
Sterility	1	..	..	..	1	..
Malformations of the Genital Organs	..	..	..	..	..	..
Inversions of Uterus (non-Puerperal)	..	..	..	..	..	..
Retroversion of Uterus . ..	5	1	1	..	7	..
Cystocele and Rectocele. ..	2	..	1	1	4	..
Uterine Prolapse	1	..	2	..	3	..
Other Uterine Displacements ..	..	..	..	..	..	..
Infections of Vulva and Vagina	..	..	2	..	2	..
Other lesions of Vulva and Vagina	1	..	..	2	3	..
Vaginal fistula	..	1	..	..	1	..
Chronic Endometritis and endocervicitis	2	1	3	..	6	1
Chronic Metritis—Fibrosis Uteri	..	..	..	..	..	..
Salpingitis and Oophoritis (except Tuberculosis) . ..	2	1	2	1	6	..
Pelvic Peritonitis	..	1	2	..	3	..
Pelvic cellulitis—Parametritis .	..	..	..	1	1	..
Pelvic Abscess	..	..	..	..	..	..
Benign Uterine Tumours ..	..	1	..	..	1	..
Benign Ovarian Tumours and Cysts	3	..	2	..	5	1
Subinvolution	..	..	2	..	2	..
Total	22	10	23	9	64	2
Diseases of the Breast.						
Acute Mastitis and Breast Abscess	..	5	6	2	13	..
Chronic Interstitial Mastitis ..	1	..	..	..	1	..
Benign Tumours and Cysts of the Breast	..	..	1	..	1	..
Cracked Nipple	..	..	1	1	2	..
Paget's Disease of the Nipple ..	..	..	..	..	..	..
Total	1	5	8	3	17	..
Diseases of the New Born, Infancy and Early Childhood.						
Asphyxia Neonatorum . ..	..	..	..	1	1	1
Birth injuries	..	..	..	..	..	..
Hare lip and Cleft Palate ..	..	..	..	..	..	..
Congenital Fistulæ	..	..	..	..	..	..
Congenital deformities, Brain and Spinal Cord	..	..	1	..	1	1
Congenital deformities, Bones and Joints	..	1	..	..	1	..
Congenital deformities, Urogenital	..	1	..	..	1	..
Other Congenital Malformations	..	..	..	..	..	..
Nævus	..	..	..	..	..	..
Hæmorrhage from Cord ..	..	..	..	..	..	..
Sepsis of Cord and Umbilicus ..	..	1	..	..	1	..
Prematurity	..	2	4	1	7	7
Malnutrition and Marasmus ..	..	5	10	..	15	14
Infantile Convulsions	..	2	2	1	5	1
Born in Hospital	..	107	113	36	256	1
Admitted with mother, not ill .	..	4	6	1	11	..
Other Diseases of early Infancy	..	1	..	..	1	1
Total	..	124	136	40	300	26
Diseases of Bones, Muscles, Joints and Tendons.						
Acute osteomyelitis	..	2	1	1	4	..
Chronic or relapsing osteomyelitis	..	4	5	1	10	..
Periostitis	..	..	1	..	1	..
Benign tumours of bone ..	..	..	..	..	..	..
Other diseases of Bone . ..	..	1	..	..	1	..
Synovitis	..	2	1	..	3	..
Acute arthritis	..	7	3	..	10	..
Chronic arthritis, osteoarthritis and rheumatoid arthritis ..	5	2	5	..	12	..
Loose bodies in Joints	2	1	..	..	3	..
Ankylosis of joints	..	1	..	1	2	..
Deformities of Joints	..	..	3	1	4	..
Injuries to semilunar cartilage	..	..	..	..	..	..
Fibrositis and myositis.. ..	2	1	1	..	4	..
Tenosynovitis	..	..	..	..	..	..
Bursitis	..	1	..	..	1	..
Dupuytren's contracture ..	..	..	..	..	..	..

RETURN OF DISEASES AND DEATHS AT THE COLONIAL WAR MEMORIAL HOSPITAL FOR THE YEAR 1939.—*continued.*

Disease.	Admission.					Deaths.
	Europeans.	Fijians.	Indians.	Others.	Total.	
Hallux Valgus, bunions	..	..	..	..	..	..
Ingrowing toe nail	1	..	..	..	1	..
Postural Deformities	1	..	..	..	1	..
Lumbago	1	..	1	..	2	..
Others	..	1	1	..	2	..
Total	12	23	22	4	61	..
Affections due to External Causes.						
Poisoning other than food poisoning	..	4	4	..	8	1
Burns and Scalds	1	7	12	5	25	3
Bruises, Abrasions and Contusions	2	6	10	1	19	..
Wounds—Incised, Punctured or Contused and Lacerated	4	12	19	4	39	..
Septic Wounds	6	24	19	8	57	..
Injuries from Firearms and Explosives	..	..	..	..	..	..
Embedded foreign bodies	1	..	..	2	3	..
Injuries from Electricity and Lightning	..	..	..	..	..	..
Heat Stroke and Sun Stroke	1	..	..	..	1	..
Scalp wounds	..	3	1	1	5	..
Asphyxia and Drowning	..	..	..	1	1	..
Insect Bites and other Stings from poisonous animals	1	..	..	..	1	..
Shock following injury	..	..	..	..	..	..
Injuries to Muscles, Tendons and Ligaments	..	6	4	..	10	..
Sprains of Joints	1	1	..	..	2	..
Dislocations of Joints	1	1	3	..	5	..
Head injuries and Cerebral Concussion	4	9	6	5	24	..
Injuries to—						
Chest	..	..	..	..	..	..
Abdomen	..	..	1	..	1	..
Internal Viscera	..	..	1	..	1	1
Spine and Back	1	1	..	..	2	..
Gas poisoning	..	..	..	..	..	..
Infections of the Hand	1	3	3	2	9	..
Fracture of—						
Jaws and Facial Bones	1	4	4	1	10	..
Skull	1	3	..	..	4	1
Spinal Column	..	2	1	..	3	2
Pelvis	..	..	2	..	2	1
Ribs	2	..	1	..	3	..
Clavicle	2	1	1	1	5	..
Humerus	2	..	3	2	7	1
Scapula	..	..	..	..	..	..
Radius	2	1	1	..	4	..
Ulna	2	..	3	..	5	..
Radius and Ulna	4	4	8	1	17	..
Carpus Metacarpus, and Phalanges	1	4	3	..	8	..
Femur	1	..	4	..	5	..
Patella	1	..	2	..	3	..
Tibia	..	2	4	..	6	..
Fibula	1	2	1	..	4	..
Tibia and Fibula	2	4	5	..	11	..
Tarsus Metatarsus and Phalanges	1	2	2	2	7	..
Separation of Epiphyses	..	..	..	..	..	..
Un-united Fractures	..	..	..	..	..	..
Mal-united Fractures	..	2	2	1	5	..
Malformation after Injuries or Diseases	..	..	..	..	..	..
Malformation after Operations	..	..	..	..	..	..
Total	47	113	130	37	327	10
Diseases of the Skin.						
Furunculosis	3	4	8	2	17	1
Carbuncle	5	7	4	2	18	..
Abscess	7	14	31	9	61	4
Cellulitis	2	6	5	1	14	1
Erysipelas	1	1	10	1	13	1
Eczema	..	..	..	..	..	..
Dermatitis	6	..	5	3	14	1
Impetigo	..	1	3	1	5	..
Scabies	..	5	4	..	9	..
Ringworm	1	1	1	..	3	..
Sinuses	..	..	..	..	..	..
Ulcers	8	5	2	..	15	1
Gangrene	..	1	3	..	4	1
Elephantiasis	..	1	..	1	2	..
Urticaria	..	..	..	..	..	..
Other Skin Diseases	4	1	3	3	11	1
Total	37	47	79	23	186	11
Diseases of the Eye.						
Conjunctivitis	2	1	2	..	5	..
Trachoma	..	5	2	..	7	..
Pterygium	1	..	..	1	2	..
Keratitis	..	..	..	..	..	..
Iritis	1	1	1	..	3	..
Glaucoma	..	..	1	1	2	..
Cataract	..	..	3	..	3	..
Corneal ulcer and sequelæ	..	2	7	..	9	..
Retinitis	..	..	..	..	..	..
Optic neuritis	..	..	..	..	..	..
Optic atrophy—primary	..	..	..	..	..	..
secondary	..	..	..	..	..	..
Injury to the eye	4	..	3	..	7	..
Foreign body in the eye	..	1	..	..	1	..
Panophthalmitis	..	..	1	..	1	..
Sympathetic ophthalmia	..	..	..	..	..	..
Diseases of the lids	..	1	..	..	1	..
Stenosis of the lacrymal ducts	..	..	..	..	..	..
Dacryocystitis	..	..	1	..	1	..
Strabismus	..	..	..	..	..	..
Ptosis	..	..	..	..	..	..
Other diseases of the eye	..	1	2	..	3	..
Total	8	12	23	2	45	..
Diseases of the Ear, Nose and and Throat.						
Eczema and Furuncle of External Auditory Meatus	2	..	1	..	3	..
Foreign Bodies in Ear	..	..	..	..	..	..
Acute Otitis Media	2	3	4	2	11	..
Mastoiditis	1	1	3	..	5	1
Chronic Otitis Media	..	2	..	2	4	
Labyrinthitis	..	..	..	..	..	..
Deflected Nasal Septum	..	..	..	..	..	..
Epistaxis	..	..	..	..	..	..
Nasal Polypi	1	..	..	..	1	..
Foreign Bodies in Nose	..	..	..	..	..	..
Hypertrophy of Nasal Turbinate Bones	..	..	..	..	..	..
Maxillary Sinusitis	5	1	3	..	9	..
Frontal Sinusitis	..	1	..	..	1	..
Ethmoidal and Sphenoidal Sinusitis	..	..	..	..	..	..
Pharyngitis	..	..	..	..	..	..
Acute Tonsillitis	5	2	8	2	17	..
Retropharyngeal Abscess	..	..	..	..	..	..
Enlarged Tonsils and Adenoids	22	1	2	1	26	..
Laryngitis	2	..	1	..	3	..
Peri-tonsillar Abscess (Quinsy)	..	..	3	1	4	..
Parasites in ear, nose and throat	..	..	..	..	..	..
Total	40	11	25	8	84	1
Ill-Defined Diseases.						
Malingering	..	1	..	1	2	..
Admitted for Investigation or Observation	23	22	59	9	113	..
Pyrexia of Unknown Origin	..	..	3	2	5	..
Undiagnosed	1	..	1	1	3	..
Orphans	..	13	1	1	15	..
Parent admitted with Child not ill	1	5	8	1	15	..
Other ill-defined diseases	..	1	..	..	1	..
Debility	3	..	1	..	4	..
Senility	..	..	2	..	2	..
Recovery after Anæsthesia	1	..	..	..	1	..
Total	29	42	75	15	161	..
Grand Total	437	1039	1678	388	3542	269

SURGICAL OPERATIONS PERFORMED AT THE COLONIAL WAR MEMORIAL HOSPITAL DURING 1939.

	No.
Blood Vessels—	
Blood transfusion	3
Ligature and injection of varicose veins	3
Injection of varicose veins	6
Muscles, Tendons, Bursæ—	
Drainage suppurative myositis	4
Tenotomy and excision of scar tissue for contracture	1
Tenotomy of Tendo Achillis	1
Tendon sutures	11
Excision of olecranon bursa	2
Bones—	
(i) Fractures—	
Reduction under general anæsthetic and application of plaster	23
Reduction under local anæsthetic and application of plaster	1
Reduction under general anæsthetic and splintage	6
Manipulation without anæsthetic and application of plaster or splint	15
Re-application of plaster	30
Open reductions of fractures	3
Open correction of malunion	5
Osteotomy for malunion	1
Sliding bone graft for non-union	3
Operation for fractured patella	1
Wiring of jaws for fractured mandible	3
Manipulation of supracondylar humeral fracture under X-Ray	1
Manipulation of fractured humeral epicondyle	1
Manipulation of fractured head of radius	1
Manipulation of fractured nose	1
Excision of head of radius for fracture	1
(ii) Deformities—	
Manipulation for talipes	1
Operation for hammer toe	1
(iii) Infections—	
Drainage acute osteomyelitis	3
Excision of shaft of fibula for acute osteomyelitis	1
Sequestrectomy	10
Curretage bone sinuses	6
Plaster cases for tuberculosis of spine	7
(iv) Amputations—	
Arm at lower third of humerus	1
At site of election of thigh	4
High amputation through thigh for sarcoma of knee	1
Toes	2
Fingers	8
Supernumerary digit	1
Joints—	
Reductions of dislocations—	
Shoulder	3
Elbow	2
Fracture dislocation of elbow	2
Fingers	2
Wire extension for old dislocation of finger	1
Removal of loose bodies—	
Elbow	1
Knee	1
Arthrodesis of ankle	1
Strapping of sprains	2
Lymphatic System—	
Excision of gland for section	5
Complete dissection of groin glands	1
Alimentary System—	
(i) Mouth, lips, teeth—	
Excision of submaxillary gland for calculus	1
Tongue tie	1
Teeth extractions	83
(ii) Stomach and Intestine—	
Removal of foreign body (nail) from duodenum	1
Enterectomy	1
Appendicectomy	29
Drainage of appendix abscess	5
Laparotomy	2
Laparotomy for tuberculous peritonitis	4
(iii) Liver and gallbladder—	
Cholecystectomy	1
Needle exploration for liver abscess	3
(iv) Rectum and anus—	
Excision of partial prolapse	2
Sigmoidoscopy	7
Proctoscopy	1
Dilatation of sphincter ani	6
Total	341

	No.
For fissure ani	2
Cautery of chronic anal ulcer	1
Excision of hæmorrhoids	1
Removal of anal polyp	1
For fistula	3
Drainage if ischio-rectal abscess	9
Urinary System—	
Exploration of kidney	1
Drainage of perinephric abscess	1
Cystoscopy	3
Suprapubic cystostomy	1
Insertion of de Pezzer catheter	3
Dilatation of meatus and meatotomy	1
Removal urethral calculus	1
Dilatation of urethra	11
Exploration of stricture of bladder neck	1
Male Genital Organs—	
Circumcision	45
Radical operation for carcinoma of penis	1
Orchidectomy	1
Orchidopexy	1
Radical cure of hydrocele	17
Amputation of scrotum for elephantiasis	5
Tapping of hydrocele	1
Hernia—	
Inguinal herniotomy (Repairs mainly by Willys-Andrewes method)	19
Fascial graft for inguinal hernia (Gallie's operation)	1
Repair of Incisional hernia	2
For strangulated hernia—	
(i) Femoral	1
(ii) Inguinal	4
(iii) Inguinal with enterectomy	1
Gynæcological and Obstetric—	
(i) Pelvic examination under anæsthetic	1
(ii) Vulva—	
Repair of wound of labium	1
Perineorrhaphy	1
(iii) Vagina—	
Colpotomy	1
Colporrhaphy—Anterior	1
Posterior	1
(iv) Uterus—	
Dilatation of cervix	2
Trachelorrhaphy	2
Hysterectomy for fibroids	1
Hysterotomy and sterilisation	1
Curettage	20
Retroperitoneal Gilliam suspension	7
Removal of retained products of conception	2
(v) Ovary and tube—	
Removal of broad ligament cyst	2
Removal of ovarian cyst	2
Removal of tubo-ovarian cyst	1
Salpingectomy for ruptured ectopicgestation	2
(vi) Obstetric—	
Cæsarean section	1
Episiotomy	17
Repair of complete perineal tear	1
Post-partum perineal repair	25
Surgical induction of labour	1
Internal podalic version	1
Application of forceps	8
Manual removal of placenta	4
Thorax—	
Artificial pneumothorax, inductions	3
Refills	20
Aspirations of chest	16
Breast—	
Radical amputation with axillary dissection	1
Excision of fibro adenoma	1
Incision of abscess	15
Eye—	
Incisions for orbital cellulitis	1
For entropion	1
Curettage Meibomian cyst	1
Conjunctical flap for corneal wound	1
For pterygium	3
Indectomy for prolapsed iris	1
Needling of cataract	1
Enucleation	3
Diathermy enucleation for tumour	1
Total	314

SURGICAL OPERATIONS PERFORMED AT THE COLONIAL WAR MEMORIAL HOSPITAL DURING 1939.—*continued.*

	No.
Ear, Nose, Throat—	
Mastoidectomy	5
Radical maxillary antrotomy for tooth in antrum	1
Adenectomy	3
Guillotine enucleation of tonsils	11
Tonsillectomy by dissection	14
Tracheotomy for diphtheritic laryngitis	1
Skin and annexa—	
Excision of pilonidal cyst and sacro-coccygeal fistula	1
Thiersch skin grafts	3
Suturings	85
Secondary suturings	6
Removal of toenails	3
Removal of toenail remnants after previous operation for ingrowing toenails	1
Removal of nail, nail bed and tip of terminal phalanx for onychauxis	1
Wedge excision for ingrowing toenails	1
Removal of part of nail for subungual abscess	1
Diathermy of corn	1
Removal of moles	2
New Growths—	
Diathermy excision of papillomata	5
Excision of sebaceous cysts	5
Excision of lipomata	2
Excision of papillomata	5
Excision of cysts	4
Diathermy excision mucous cyst of lip	1
Biopsy tumour of neck	1
Biopsy tumour of testicle	1
Diathermy excision of rodent ulcer	1
Diathermy excision of epithelioma with insertion of Radium	1
General—	
Insertion of Carrel's tubes for Dakin's treatment	1
Burns tanned	13
Lumbar punctures	13
Exploratory aspirations	12
Curettage of sinuses	2
Dressings under anæsthetic	6
Removal of radium needles under anæsthetic	1
Exploration of foot	1
Total	215

	No.
Foreign bodies removed—	
Eye	31
Ear	2
Nose	5
Toe	1
Foot	1
Foot under X-Ray	1
Ankle	1
Leg	1
Finger	3
Hand	2
Arm	1
Applications of Radium—	
(i) For Epithelioma	6
(ii) For Rodent ulcer	14
(iii) For Malignant Parotid tumour	1
(iv) For papilloma	2
Total	72
Grand total	942

Treatments by Ultra-violet Radiation	87
Treatments by short-wave diathermy (one week's use)	16

Anæsthetics administered—	
I. General—	
(*a*) Inhalation—	
(i) Chloroform	1
(ii) Ether	4
(iii) Chloroform and Ether	314
(iv) Ethyl Chloride and Ether	42
(v) Ethyl Chloride	68
(*b*) Intravenous—	
Evipan	22
II. Spinal Percaine	2
III. Local—	
(i) Cocaine, Procaine, Planocaine	165
(ii) Ethyl Chloride freezing	21
Total	639

LIST OF OPERATIONS PERFORMED AT LAUTOKA HOSPITAL, 1939.

In-Patient.	No.
Trephination of skull	1
Enucleation of the Eye-ball	5
Tonsillectomy	2
Extraction of teeth	11
Repairing of Hare Lips	2
Extraction of nasal Polypus	1
Excision of Tumour	4
Tubercle Glands	2
Scrapping of Sinuses	5
Periostotomy	1
Manipulation and plastering of Talipes	1
Incision and separation of Webbed fingers	1
Amputation of—	
Toe	3
Fingers	4
Above elbow	1
Through mid-Humerus	1
At site of Election	2
Reduction of—	
Dislocation	1
Fracture	2
Paracentesis of abdomen	9
Laparotomy various	4
Abdominal Exploration	1
Appendicectomy	3
Dilatation and curettage of uterus	1
Ventrosuspension	1
Salpingectomy	1
Cæsarean Section	2
Total	72

	No.
Radical cure of—	
Hernia	9
Hernia c. appendicectomy	1
Hydrocele	7
Hydrocele c. Hæmorrhoidectomy	1
Hæmorrhoidectomy	7
Hæmorrhoidectomy currettage of Fistula ano	1
Curettage of Fistula in Ano	2
Dilatation of Imperforate Anus	1
Instrumental delivery	1
Circumcision	1
Incisions various	74
Other operations	18
Total	195

Out-Patient.	
Manipulation and plastering of Talipes	2
Aspiration of Hydrocele	8
Reduction of Dislocation	1
Excision of Tumour	3
Remove Ingrowing nail	4
Dilatation of Urethral stricture	3
Circumcision	12
Extraction of—	
Foreign body	4
Teeth	719
Incision various	65
Other operations	16
Total	837

TABLE SHOWING NUMBER AND CAUSES OF ADMISSION AND DEATHS AT LAUTOKA HOSPITAL, LEVUKA HOSPITAL, PROVINCIAL HOSPITALS, PLANTATION HOSPITALS, AND SUVA GAOL INFIRMARY.

Disease.	Lau-toka.		Levuka.		Rewa.		Ba.		Na'roga.		Ta'uni.		Savu-savu.		Ra.		Colo East.		Ma'uata.		Bua.		Ka'avu.		Rotuma.		Loma-loma.		Suva Gaol.		Ra'wai Plant.		Nadi.		Penang.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
General Diseases.																																						
Mumps	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	4	..
Chicken-pox	..	..	1	..	..	..	..	..	1	..	4	..	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	10	..
Diphtheria	8	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	9	3
Pertussis	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..
Influenza	107	..	56	..	50	4	20	..	21	..	181	..	25	..	7	..	71	..	59	1	50	2	13	..	27	1	30	..	50	..	28	..	72	..	7	1	874	9
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	5	..	3	1	3	1	4	1	1	1	..	..	..	..	4	1	..	..	11	..	..	..	..	..	..	..	..	..	..	..	10	1	7	1	10	1	58	8
Dysentery	147	7	36	2	33	4	114	..	30	3	17	..	16	3	7	1	..	..	32	8	16	6	3	..	..	..	26	..	13	..	31	..	103	3	19	1	643	38
Pneumonia	17	8	28	6	9	4	30	..	6	3	48	..	2	1	14	..	27	6	45	11	3	..	1	1	1	1	32	2	..	..	22	2	33	8	10	1	328	54
Gonorrhœa	8	..	2	..	6	..	..	..	4	..	11	..	6	..	2	..	..	..	22	..	3	..	..	..	..	..	..	..	2	..	21	..	5	..	1	..	93	..
Septicæmia	25	3	2	1	..	..	..	..	2	1	2	2	2	2	..	..	..	..	1	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	..	..	36	11
Tetanus	4	3	1	..	4	2	..	..	1	1	2	1	1	1	1	..	..	..	5	..	..	..	1	1	..	..	2	2	..	..	1	1	..	..	..	..	23	12
Tuberculosis	38	11	30	5	16	4	8	3	11	3	28	4	11	3	9	..	3	1	14	4	9	4	10	1	17	2	9	3	..	..	8	..	10	3	4	1	235	52
Yaws	4	..	1	..	..	..	1	..	1	..	12	..	40	..	2	..	2	..	5	..	..	..	33	..	49	..	1	..	..	..	..	..	3	..	..	..	154	..
Syphilis	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	11	..
Leprosy	4	1	2	..	..	..	..	..	1	..	4	..	..	..	3	..	2	..	..	..	..	..	9	..	2	..	..	..	..	..	..	..	..	..	1	..	28	1
Anæmia	40	6	4	1	..	..	..	..	2	..	1	..	1	..	..	..	..	..	12	2	6	..	..	..	..	..	..	..	4	..	..	..	9	1	1	1	80	11
Pyæmia	..	..	1	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	5	..	..	..	..	..	..	..	1	..	1	1	12	1
Rheumatism	24	..	3	..	2	..	1	..	17	..	6	..	11	..	2	..	2	..	16	..	2	..	..	..	..	..	..	..	..	..	6	..	14	1	3	..	109	1
New Growths	3	3	2	1	2	..	..	..	..	..	..	..	4	..	1	1	..	..	9	1	..	..	1	..	1	..	..	..	..	..	..	..	3	..	1	1	27	7
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diabetes	7	..	..	..	2	..	..	..	1	1	1	..	..	..	..	..	..	..	6	..	..	..	..	..	..	..	..	..	1	..	2	1	12	4	..	..	32	6
Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	11	..	..	..	22	..
Debility	..	..	10	..	11	1	2	..	2	2	..	..	1	..	..	..	..	..	8	1	7	..	14	1	..	..	2	1	3	..	2	..	9	2	3	..	74	8
Local Diseases.																																						
Diseases of—																																						
Nervous System	26	13	4	..	..	..	..	..	12	3	10	2	1	..	2	..	1	..	20	2	2	..	1	..	2	1	3	2	1	..	3	1	13	2	4	..	105	26
Eye	26	..	7	..	4	..	1	..	5	..	27	..	18	..	6	..	7	..	26	..	19	..	6	..	1	..	2	..	2	..	8	..	7	..	1	..	173	..
Ear	8	1	4	..	2	..	2	..	1	..	5	..	3	..	1	..	2	..	11	..	7	..	..	..	1	..	..	..	1	..	2	1	3	..	..	..	53	2
Nose	..	..	1	..	..	..	..	..	..	..	4	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..
Circulatory System	33	26	4	1	6	1	3	..	10	..	4	3	6	1	1	1	2	..	39	7	20	..	2	..	..	..	1	..	3	..	10	1	15	5	2	1	161	47
Respiratory System	61	5	43	3	4	..	15	5	45	3	128	12	11	1	7	..	2	..	45	3	49	1	16	2	5	..	30	..	3	..	12	..	32	1	12	..	520	36
Digestive System	143	8	25	1	30	..	12	2	33	2	41	1	12	1	11	..	4	..	33	3	65	..	..	..	27	7	24	1	7	..	10	..	57	2	19	2	603	30
Lymphatic	3	..	19	..	..	..	1	..	8	..	10	..	2	..	5	..	1	..	8	2	3	..	..	..	3	..	2	..	1	..	13	..	..	..	3	..	82	2
Urinary System	17	3	1	..	2	..	..	..	6	2	2	..	3	..	6	1	..	..	15	2	..	..	8	1	..	..	..	..	..	..	3	..	20	3	2	..	85	12
Male Organs	19	1	4	..	3	..	..	..	3	..	27	..	5	..	1	..	..	..	24	..	..	..	1	..	1	..	1	..	1	..	9	..	4	..	1	..	104	1
Female Organs	34	1	6	..	10	..	3	..	..	..	10	1	2	..	4	..	1	..	36	..	..	..	3	..	9	1	4	..	..	..	..	..	31	..	4	..	157	3
Organs Locomotion	17	..	8	..	1	..	..	..	..	..	1	..	1	..	2	..	..	..	3	..	..	..	1	..	..	..	..	..	3	..	..	..	..	..	3	..	40	..
Cellur Tissue	71	..	16	..	5	..	19	..	25	..	124	..	19	1	19	..	11	..	77	2	..	..	6	..	4	..	24	..	3	..	22	..	76	..	7	..	528	3
Skin	31	..	13	..	25	..	..	..	40	..	18	..	90	..	33	..	2	..	36	..	20	..	13	..	9	..	..	..	3	..	6	..	8	..	3	..	350	..

Injuries—General ..	41	4	3	..	10	..	12	..	7	..	8	..	1	..	..	..	18	..	18	1	4	..	3	..	6	..	8	..	11	..	9	..	6	1	3	..	168	6
Local	105	..	58	..	9	..	28	..	44	..	36	..	20	..	27	..	22	..	65	..	..	..	12	..	16	..	10	..	..	..	64	..	53	..	20	..	589	..
Poisons	5	1	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	1	2	..	..	..	3	..	..	..	1	..	..	..	..	..	..	..	..	..	14	2
Parasites	2	..	20	..	3	..	..	..	8	..	25	..	4	..	5	1	1	..	3	..	..	..	1	..	..	..	..	..	..	..	..	..	6	..	2	..	80	1
Parturition	135	1	6	..	2	..	..	..	17	1	41	..	4	..	3	..	52	..	20	2	43	..	22	..	20	..	38	..	..	..	..	..	..	..	..	..	403	4
Premature Birth ...	4	4	3	1	..	..	1	..	4	..	1	..	..	..	1	..	1	..	5	..	2	..	1	..	2	..	..	..	..	..	..	..	7	..	1	..	33	5
Unclassified	264	1	63	..	3	..	..	..	5	1	6	..	51	..	23	..	1	..	131	..	21	..	5	..	..	..	1	..	1	..	5	..	64	..	37	..	681	2
Lunacy	..	..	..	..	4	..	..	..	3	..	..	..	..	..	..	..	14	..	4	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	28	..
Hernia............	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	6	..
Grant Total	1491	113	491	23	265	21	278	11	379	27	846	26	375	14	209	6	251	8	932	52	351	13	194	8	210	13	251	11	115	..	307	8	704	39	186	11	7835	404
Out-patients.........	8,255		6,004		6,267		5,585		2,574		4,733		2,161		3,094		4,243		10,087		1,751		3,928		2,088		2,158		176		15,841		14,979		6,429		100,353	

SUMMARY OF METEOROLOGICAL OBSERVATIONS AT SUVA FOR THE YEAR 1939.

Months.	Mean Pressure in inches. (Reduced to 32° Faht. 45° Lat. and M.S.L.		Air Temperature (F°)												Mean Dew Point. (Degrees)		Mean Vapour Pressure in Millibars.		Mean Relative Humidity (Saturation=100)		Mean Amount of Cloud. (0–10)	
			Mean Dry Bulb.		Mean Wet Bulb.		Means of		Mean	Absolute Max. and Min.											
							Max.	Min.		Max.	Date.	Min.	Date.								
	8h.	14h.	8h.	14h.	8h.	14h.								8h	14h	8h	14h	8h	14h.	8h	14h
January	29·723	29·682	78·7	83·1	75·7	77·5	85·6	74·3	79·9	91	2	70	25	74·5	75·0	29·1	29·7	86·9	77·6	8·1	8·1
February	29·785	29·745	80·1	84·3	76·1	77·6	86·9	75·3	81·1	90	5, 6, 7, 9, 11	73	26, 28	74·5	74·5	29·2	29·2	83·3	73·5	6·2	6·9
March	29·782	29·736	77·4	81·5	74·7	76·6	84·3	73·7	79·0	91	28	71	16	73·5	74·4	28·1	29·0	87·8	79·7	7·7	8·3
April	29·874	29·823	76·9	80·9	74·1	75·1	83·1	72·6	77·9	88	1, 7	69	21, 22	72·8	72·4	27·6	27·2	87·5	76·4	7·7	7·9
May	29·936	29·886	75·2	78·8	72·5	73·6	80·4	71·6	76·0	85	9	68	20, 21	71·1	71·0	26·1	26·0	87·6	77·7	8·3	8·6
June	29·997	29·943	72·6	78·0	68·6	70·3	79·6	68·8	74·2	86	21	64	28	66·2	66·0	22·2	21·9	80·9	66·9	5·1	5·9
July	29·958	29·900	71·1	76·8	68·0	70·2	78·4	67·4	72·9	89	7	63	12	66·0	66·5	22·0	22·3	84·6	71·6	5·3	6·6
August	29·907	29·848	73·0	78·2	69·8	71·3	80·0	69·0	74·5	89	12	62	28	68·1	67·4	23·5	23·2	84·7	70·8	6·6	6·4
September	29·999	29·937	73·0	78·0	68·5	70·1	80·0	68·5	74·2	89	24	61	21	65·8	65·4	21·9	21·7	79·0	66·2	6·7	6·7
October	29·953	29·897	76·0	79·6	71·6	72·8	81·8	71·3	76·6	88	12	68	7	69·4	69·3	24·7	24·6	80·5	71·5	7·4	7·5
November........	29·903	29·854	76·4	79·8	71·2	72·4	82·1	70·4	76·3	89	25	67	18	68·6	68·6	23·9	24·1	77·1	69·6	7·3	7·3
December	29·850	29·811	77·5	80·8	72·2	73·4	83·0	72·4	77·7	88	11	66	23, 25	69·4	69·6	24·7	25·0	76·8	69·9	7·7	7·6
Year	29·889	29·839	75·7	80·0	71·9	73·4	82·1	71·3	76·7	..	....	..	....	70·0	70·0	25·3	25·3	83·1	72·6	7·0	7·3
Mean ...	8h. and 14h. 29·864		..	..	..	..	..	..	..	..	....	..	....	..	..	..	..	..	..	..	..

SUMMARY OF METEOROLOGICAL OBSERVATIONS AT SUVA FOR THE YEAR 1939.—*continued.*

Months.	Total Rainfall (Inches.)	Sunshine. (Hours and Tenths.)		Miles of Wind.		Weather. No. of days of							Wind. Number of Observations.																			
		Total.	Mean daily	Total.	Mean velocity (m.p.h.	Hail.	Thndr Strms	Gales.	Clear Sky		Overcast		N		N.E.		E.		S.E.		S.		S.W.		W.		N.W.		Calms.		Var.	
									8h	14h	8h	14h	8h	14h	8h	14h	8h	14h	8h	14h.	8h	14h	8h	14h	8h	14h	8h	14h	8h	14h	8h	14h
January	30·71	141·4	4·6	6230·4	.. 8·4	0	6	5	1	0	14	14	5	2	7	6	4	10	2	4	2	5	0	3	1	1	0	0	10	0	0	0
February	5·71	184·6	6·6	4442·4	6·6	0	4	0	3	0	9	10	4	2	2	1	2	7	4	9	2	5	0	0	0	1	0	2	14	1	0	0
March	23·06	90·9	2·9	4028·2	5·4	0	5	1	0	0	17	20	10	6	8	5	1	9	0	4	0	2	0	4	1	0	1	0	10	1	0	0
April	16·98	120·9	4·0	5286·4	7·3	0	5	2	1	0	17	17	5	0	8	8	8	17	2	2	1	0	0	1	0	2	0	0	6	0	0	0
May	22·88	68·8	2·2	5277·6	7·1	0	0	0	0	0	20	20	3	0	9	6	9	15	7	6	0	1	1	2	0	0	0	0	2	1	0	0
June	2·07	156·3	5·2	4634·4	6·4	0	0	0	8	2	9	8	12	2	4	4	3	7	6	11	1	5	0	1	0	0	0	0	4	0	0	0
July	6·53	161·9	5·2	4540·8	6·1	0	0	0	10	2	10	13	15	1	1	2	2	6	4	5	3	11	0	4	0	0	0	1	5	0	1	1
August	6·55	173·4	5·6	5216·0	7·0	0	0	1	3	2	13	12	16	4	5	5	1	7	2	5	0	6	1	4	1	0	2	0	3	0	0	0
September	6·25	161·6	5·4	5360·0	7·4	0	0	0	1	0	12	7	8	0	5	4	4	11	5	9	2	4	1	2	1	0	2	0	2	0	0	0
October	8·63	129·5	4·2	....	...	0	2	0	1	0	14	16	2	0	8	4	6	14	5	10	0	2	2	1	2	0	2	0	4	0	0	0
November.......	10·82	169·3	5·6	....	...	0	4	0	0	0	11	13	1	0	6	4	12	17	5	8	2	0	0	1	0	0	0	0	3	0	1	0
December	6·96	144·8	4·7	6088·8	8·2	0	1	1	0	0	17	17	2	0	10	8	7	10	4	8	3	3	0	2	1	0	2	0	2	0	0	0
Year ...	147·15	1703·4	4·7	51105·0 (10 mths)	7·0	0	27	10	28	6	163	167	83	17	73	57	59	130	46	81	16	44	5	25	7	4	9	3	65	3	2	1
Mean ..	...	...	...	....	...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

EXTREMES FOR THE YEAR.

Highest Pressure—30·125° at 8 a.m. on June 5th.
Lowest Pressure— 28·811° at 2 p.m. on January 21st.
Highest Temperature in Shade—91° on January 2nd and March 28th.
Lowest Temperature in Shade—61° on September 21st.

Greatest Range—21° on July 13th
Least Range—3° on April 4th, July 27th, August 20th, October 6th, and November 16th
Most Rain in 24 hours—5·78″ on January 19th.
Maximum wind velocity—73 m.p.h. from N x W at 1020 on January 21st.